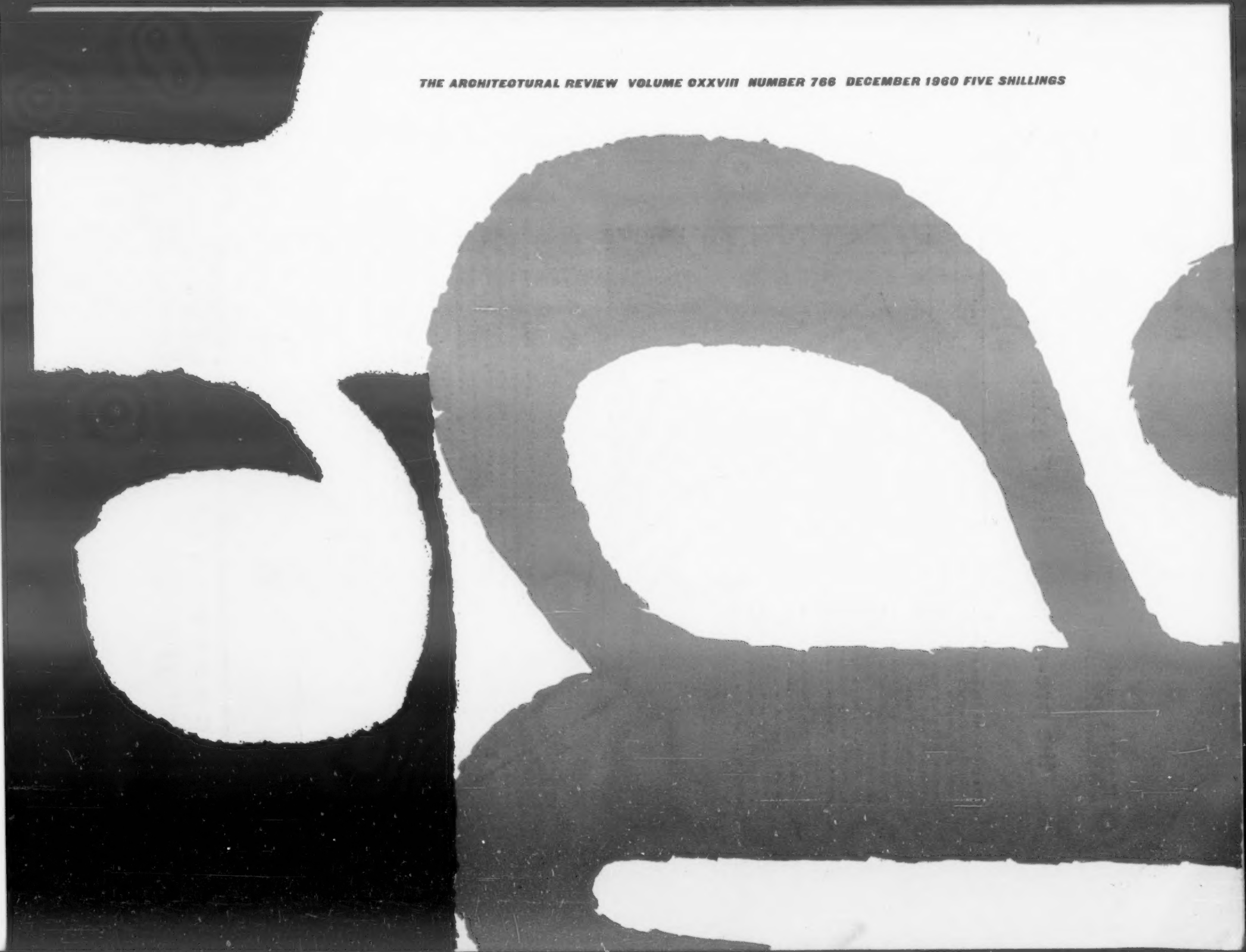
THE ARCHITECTURAL REVIEW VOLUME CXXVIII NUMBER 766 DECEMBER 1960 FIVE SHILLINGS



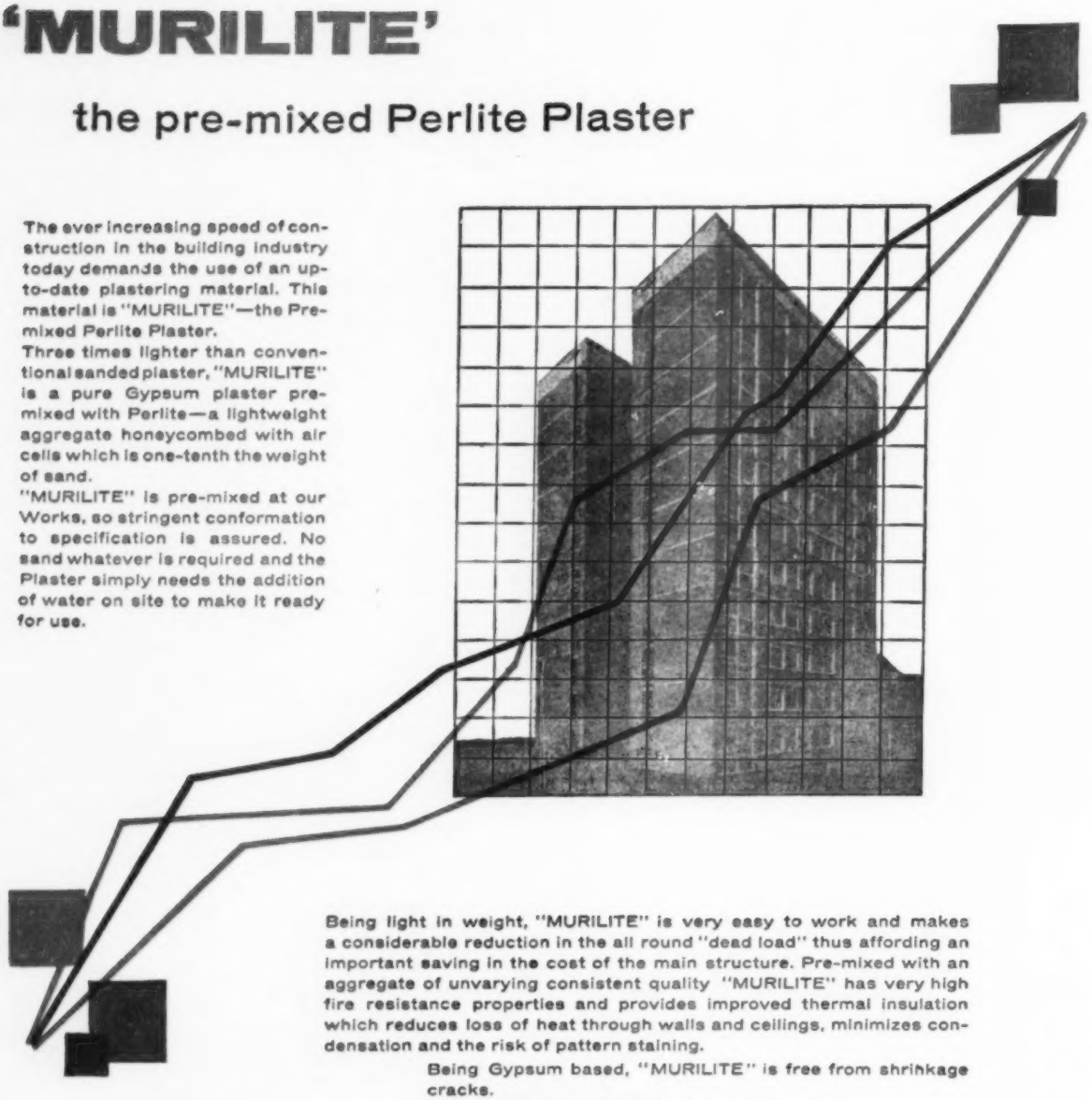
'MURILITE'

the pre-mixed Perlite Plaster

The ever increasing speed of construction in the building industry today demands the use of an up-to-date plastering material. This material is "MURILITE"—the Pre-mixed Perlite Plaster.

Three times lighter than conventional sanded plaster, "MURILITE" is a pure Gypsum plaster pre-mixed with Perlite—a lightweight aggregate honeycombed with air cells which is one-tenth the weight of sand.

"MURILITE" is pre-mixed at our Works, so stringent conformation to specification is assured. No sand whatever is required and the Plaster simply needs the addition of water on site to make it ready for use.



Being light in weight, "MURILITE" is very easy to work and makes a considerable reduction in the all round "dead load" thus affording an important saving in the cost of the main structure. Pre-mixed with an aggregate of unvarying consistent quality "MURILITE" has very high fire resistance properties and provides improved thermal insulation which reduces loss of heat through walls and ceilings, minimizes condensation and the risk of pattern staining.

Being Gypsum based, "MURILITE" is free from shrinkage cracks.

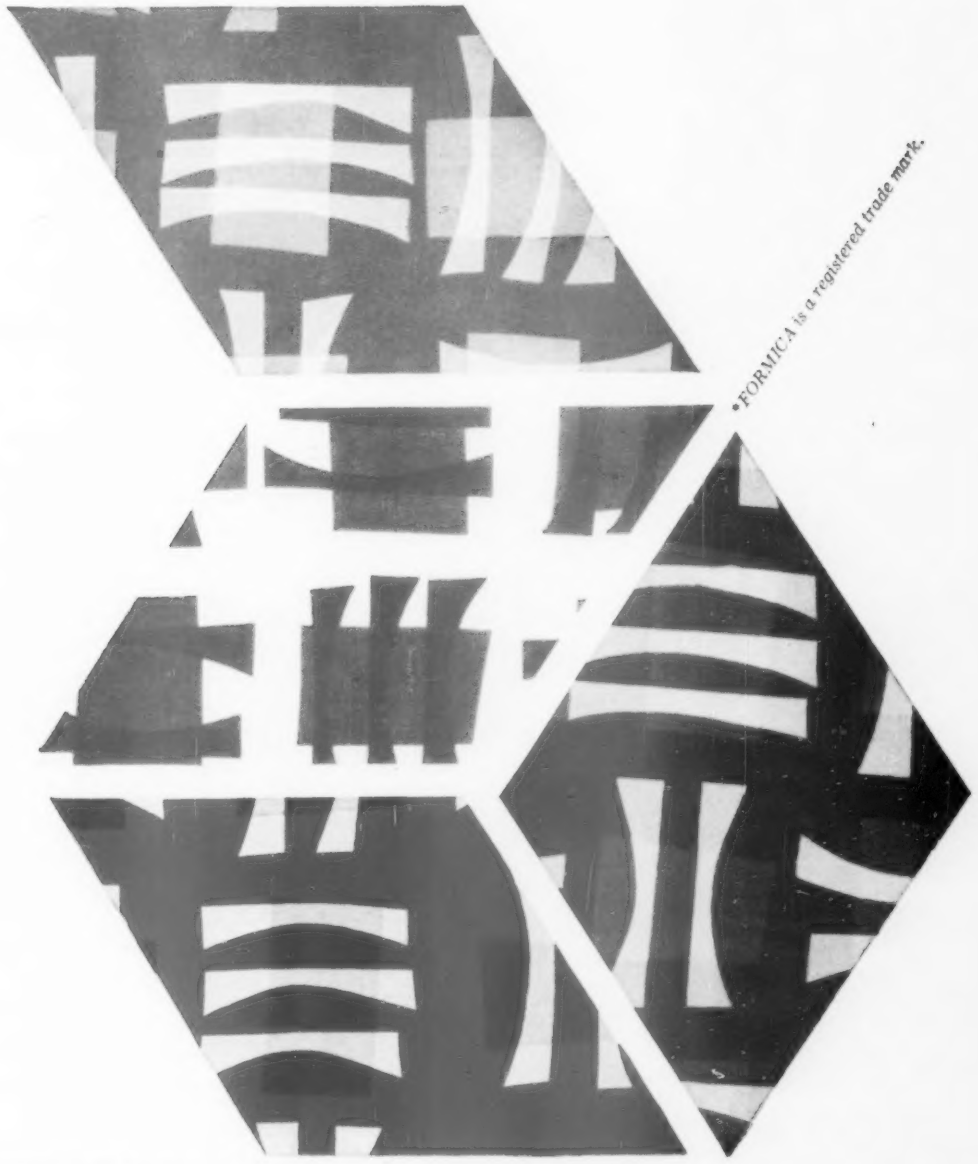
The Bonding Coat grade of "MURILITE"—which incorporates Vermiculite as the aggregate—adheres excellently to concrete. "MURILITE" Plaster contains no ingredients harmful to decoration and may be safely decorated as soon as it is dry.

We should like to tell you more about "MURILITE"—or offer expert advice on any of your plastering problems.

CAFFERATA & CO. LTD.

NEWARK · NOTTS · TEL: NEWARK 2060 · GRAMS: CAFFERATA NEWARK

Gypsum Plaster and Cement



*FORMICA is a registered trade mark.

FORMICA*

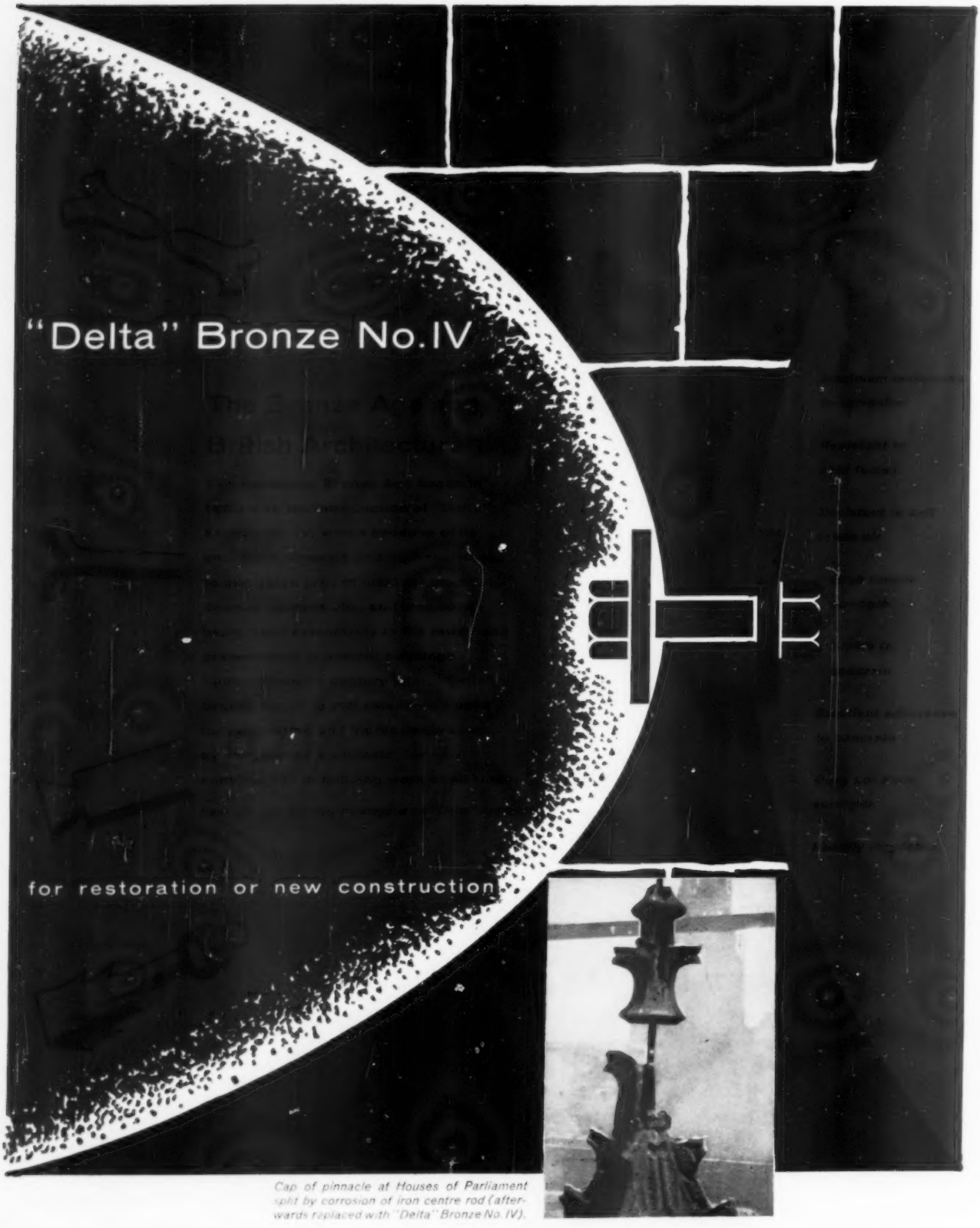
THE FINEST OF ALL THE DECORATIVE LAMINATES



GONDOLA

One in the series of Formica bold patterns for the Architect and Designer, available to you on special order.
Choice of five colours: Pink, Blue, Red, Blue Green, Off White.

Formica Ltd., De La Rue House, 84-86, Regent Street, London, W.1. **This reproduction may differ from the actual Formica colour pattern.*



Cap of pinnacle at Houses of Parliament split by corrosion of iron centre rod (afterwards replaced with "Delta" Bronze No. IV).

The Delta Metal Company Limited

TUNNEL AVENUE, EAST GREENWICH, LONDON S.E.10

Telephone: Greenwich 0123 Telegrams: Delta London SE10

EM/DC. DM 6112

specify

CANADIAN TIMBER

Spruce Canadian spruce is prized for its light weight and resilience. It is soft of texture and even of grain. It handles easily, takes a smooth finish and holds nails well. When properly seasoned, it will not warp, twist or check. These properties strongly recommend Canadian spruce for light and medium construction work, boat building, case-making, scaffold planks, aircraft manufacture, musical instruments and many other purposes. *For further information*, contact The Commercial Secretary (Timber), Canada House, London, SW1



Construction framing with tough resilient Canadian spruce

HADRIAN RAPID

the first gloss paint to combine

RAPID DRYING with

these other important features



★ Easy to apply . . . ample "wet edge" time

★ Extremely durable and weather resistant . . . won't crack or chip

★ Dries fast . . . inside, outside—winter, summer. Dry in 1 to 2 hours, second coat within 4 hours.

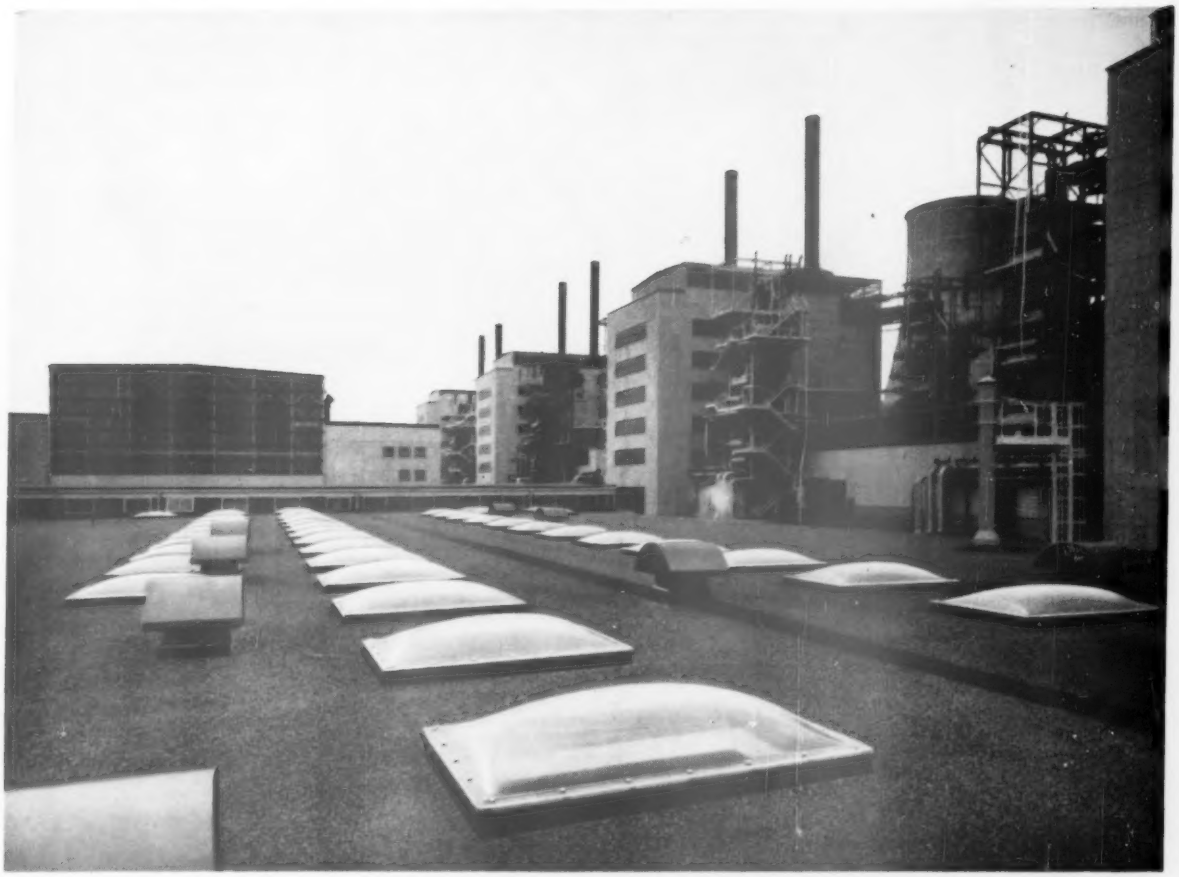
Saves time
Reduces labour costs
Lessens risk of—

BLOOMING
RAIN-SPOTTING
ATTACK BY FOG OR DEW
DUST OR DIRT DEPOSITS

For more details of Hadrian Rapid write or phone your local Smith & Walton depot, or call

SMITH & WALTON LTD HALTWHISTLE NORTHUMBERLAND

HALTWHISTLE 421



Domelights made from 'Perspex' acrylic sheet by Cordar Ltd., Dean Street, Newcastle-on-Tyne, on the new extension to workshops and stores building at United Kingdom Atomic Energy Authority, Chapelcross Works, Annan, Dumfriesshire. Consulting Engineers: Messrs. Merz and McLellan, Newcastle-on-Tyne. Architects: Messrs L. J. Couves & Partners, F.F./A.A.R.I.B.A Newcastle-on-Tyne.

For efficient domelights giving greater freedom of design specify 'Perspex'

'PERSPEX' ACRYLIC SHEET is the ideal material for domelights. It has extremely high light transmission and domelights made from it are easily installed and maintained. Bad weather and most corrosive atmospheres have no effect on 'Perspex'; it lasts indefinitely. But, to the architect, 'Perspex' offers more than efficiency. It is tough yet light in weight. Because it can be easily heat shaped, 'Perspex' gives the architect greater freedom in his domelight design.

'PERSPEX'

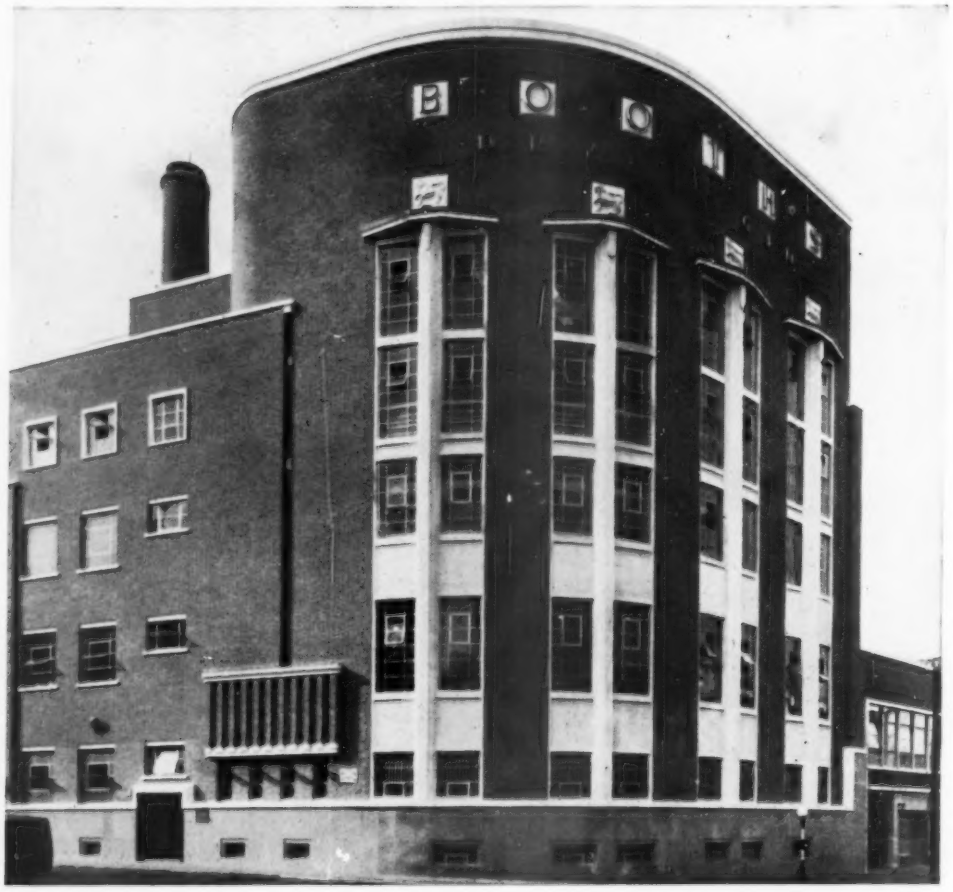
'Perspex' is the registered trade mark for the acrylic sheet manufactured by I.C.I.

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S.W.1

ICI

P702

This new building for Booth's Distilleries Ltd., Clerkenwell, incorporates aluminium windows made by HENRY HOPE & SONS LTD. *Those on the ground floor are "customs windows" being fitted with burglar bars and hopper casements. Architects: Architects to the Distillers Co. Ltd.*



TOMORROW'S **WINDOWS**

—already taking shape with

ALCAN

ALUMINIUM

The windows of today and tomorrow made of ALCAN aluminium are better than ever before. In their natural clean finish, or colourfully anodised they will present no problems of rust and lessen the cost of maintenance.

ALCAN
ALUMINIUM LIMITED OF CANADA

To the architect and designer

ALCAN aluminium means:

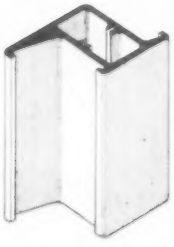
- *Freedom to design outside the limitations of traditional raw materials*
- *One-piece hollow extruded sections made to intricately designed shapes never possible before*
- *Windows opening up new horizons in planning and design but right down-to-earth in sheer practicality*

To the building owner or occupier

ALCAN aluminium means:

- *No painting necessary*
- *No rusting*
- *Resistance to decay and corrosion*
- *No warping*
- *No needless weight – windows that are* always *easy to open*
- *Reduced maintenance cost throughout the life of the building*

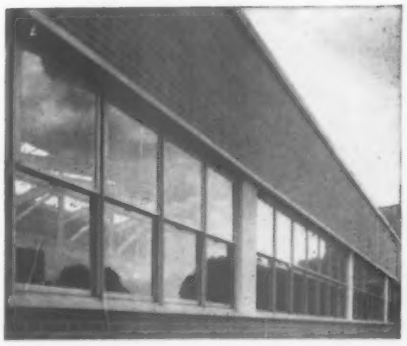
The advantages of aluminium are at their greatest with ALCAN aluminium. ALCAN, one of the world's largest producers, are specialists in the ingot field. To manufacturers, ALCAN specialisation means a constant, reliable source of aluminium in alloy forms exactly – *consistently* – suited to precise needs.



A typical example of an extrusion for aluminium windows.

To architects and designers ALCAN specialisation makes available a vast store of technical knowledge and experience ready to be applied to any project, backed up by years of fabricating technique.

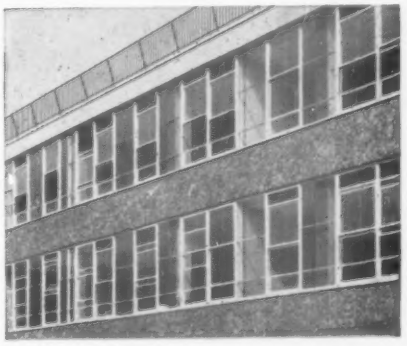
To the user of every aluminium product ALCAN specialisation means a certainty of quality and the best value that money can buy.



HOPE'S *aluminium double-hung sliding sash windows, made entirely from extruded sections were used in this Comprehensive High School for the L.C.C. at Wandsworth.*
Architects: Hening & Chitty.



The B.O.A.C. Air Training School at Hounslow is another example of the use of aluminium windows. Here, HOPE'S *windows have been built into wooden frames.*
Architect: F. Greenwood, A.R.I.B.A.



HENRY HOPE & SONS LTD., *supplied the aluminium double-hung sash windows and aluminium casement windows for the Manor Laundry, Camberwell.*
Architects: Stone, Thoms & Partners.

ALCAN (U.K.) LIMITED · Aluminium Canada House · 30 Berkeley Square · London W1

raw/x11

THE ANSWER IS A METAL PARTITION



BY EVERTAUT

They're so versatile—can be planned to fit any shape or size of floor space. Erection is simple and speedy, with none of the mess and noise usually associated with building jobs. And not only is the result attractive ..... it's strong, rigid, gleaming with practical qualities.

Write for our illustrated folder.

POST COUPON FOR CATALOGUE

To EVERTAUT LTD., WALSALL ROAD, PERRY BARR, BIRMINGHAM, 22B.

Please send me full details of Evertaut Metal Partitions.

NAME _____

ADDRESS _____

_____



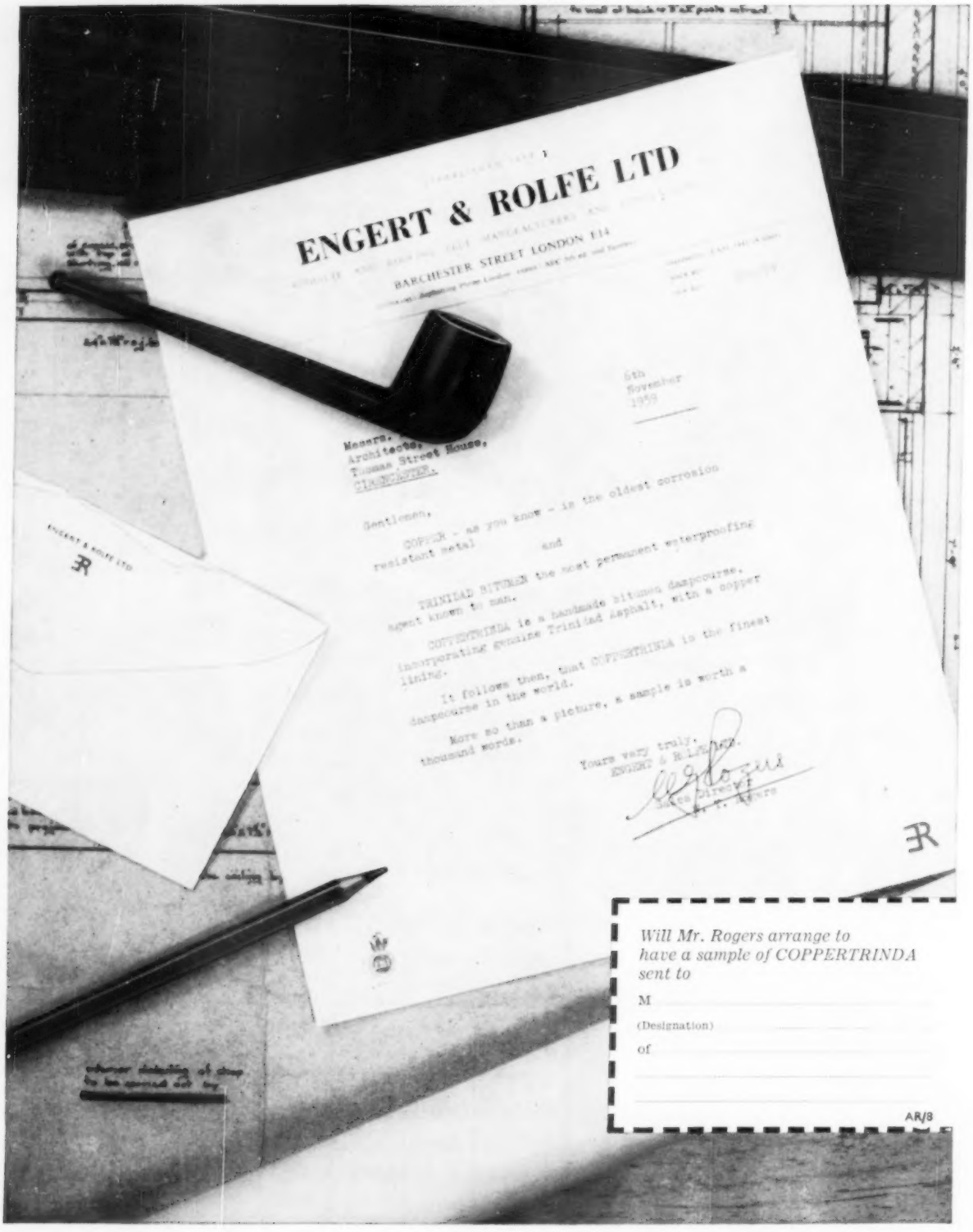
manufacturers of the highest quality sanitary fittings

BOLDINGS



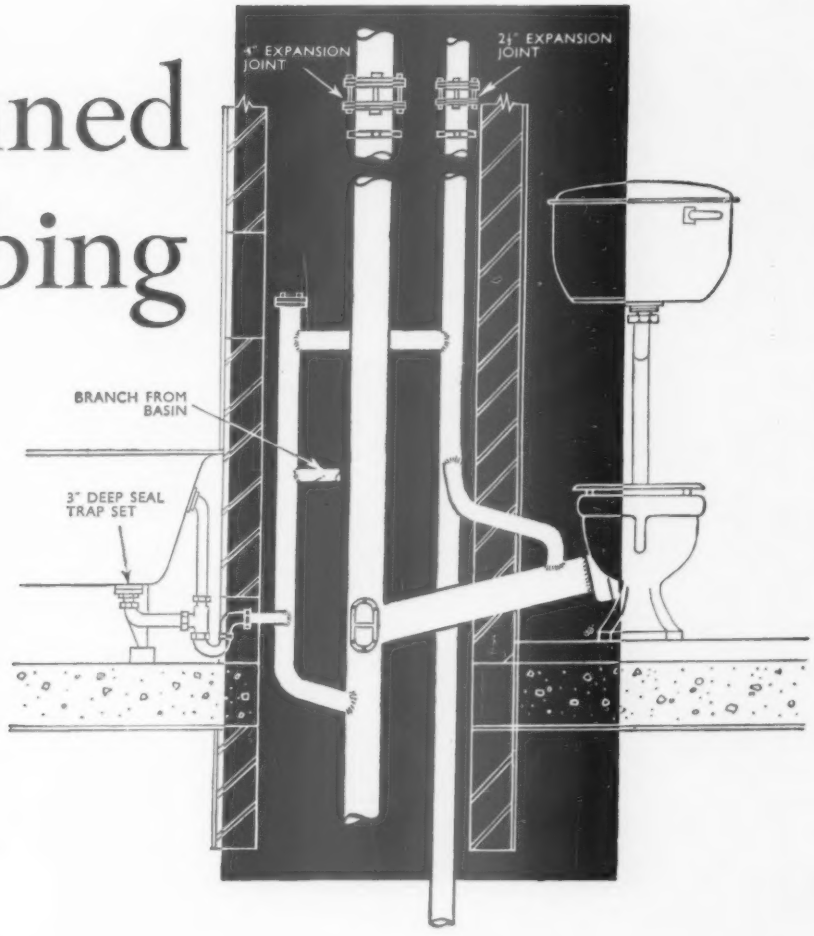
JOHN BOLDING & SONS LIMITED

Grosvenor Works Davies Street London W1 Telephone MAYfair 6617


ENGERT & ROLFE LTD
BARCHESTER STREET LONDON E14
Will Mr. Rogers arrange to have a sample of COPPERTRINDA sent to
M
(Designation)
of
AR/8

CT2

Planned plumbing



Prefabricated plumbing in smooth bore copper or steel has many advantages in terms of SPEED OF INSTALLATION; ADAPTABILITY TO INDIVIDUAL DESIGN; and long, trouble-free life. Close contact in early stages between the Architect and Econa can relieve even the most stubborn plumbing headache.

ECONA *can help you*

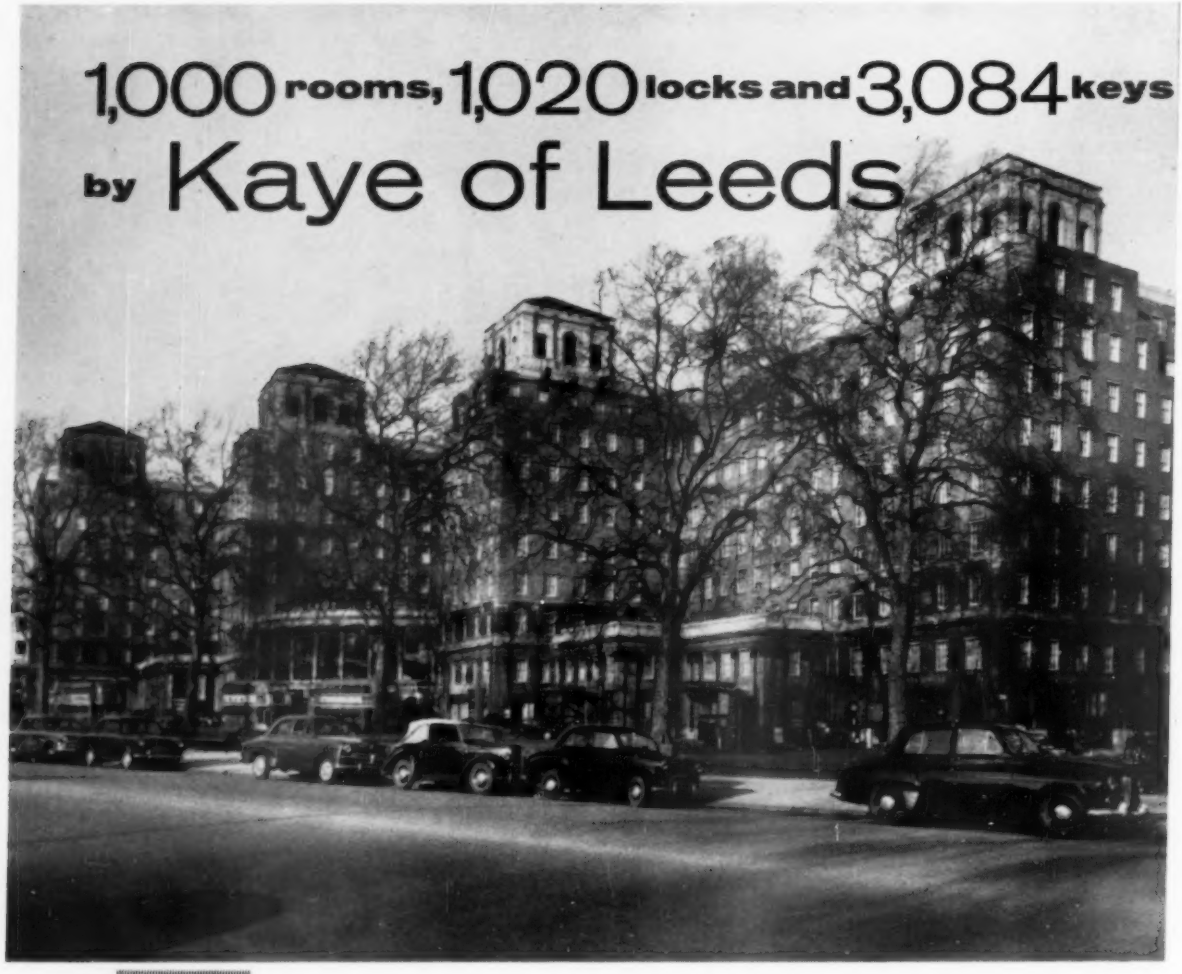
Designers and manufacturers of waste traps in standard and special forms, copper radiators and preformed plumbing





ECONA MODERN PRODUCTS LIMITED, HIGHLANDS ROAD, SHIRLEY, SOLIHULL. Telephone: SOLihull 4981

1,000 rooms, 1,020 locks and 3,084 keys by Kaye of Leeds





Grosvenor House's requirements for locks with master, sub-master and servant keys were satisfactorily fulfilled by Joseph Kaye & Sons Ltd. Specify Kaye Locks and Door Furniture for quality finish and robust traditional craftsmanship. They have nearly a century's experience behind them.

FOR EVERY APPLICATION

- Hotel Locks
- Mortice Locks
- Sliding Door Locks
- Emergency Door Fittings
- Padlocks
- Latches
- Rim Locks
- Cupboard Locks
- Stabilisers
- Drawer and Desk Locks

TECHNICAL PERFECTION

- 4 Lever Locks
- 750 Differs off Levers
- Differs from Levers and Wards are almost unlimited
- Followers are of hard resistant Brass
- Forends are of hard resistant Brass
- Phosphor Bronze Springs to Levers
- The 'K' design, four lever Lock is for greater security
- The Locks can be made in suites with Sub-master and Master Keys

SECURITY K SERVICE

Illustrated literature is available on request

Joseph Kaye & Sons Ltd.,

Established 1864

Lock Works, Leeds 10. Telephone : 20887
London Office : 1-5, New Bond Street, London W.1. Telephone : HYDe Park 2956.



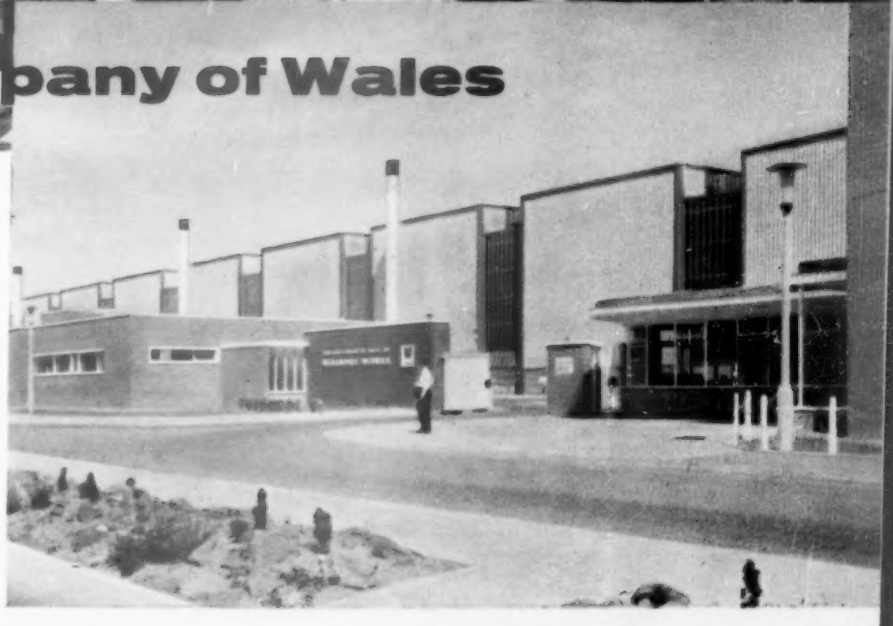
At The Steel Company of Wales

Enlightened management recognises the vital significance of atmosphere and temperature control to maintain the efficiency of men and machines. Economical, localised heating in large shell buildings—like the Heavy Boiler Shop, Hot Mill Mechanical Workshop and Maintenance Workshop for the Steel Division at the Abbey Works, Margam—needs a variety of installations. Each one must be virtually tailor-made to suit individual circumstances. Other problems were faced and other solutions found for the full air-conditioning of the computor in the Quantovac Room of the Bessemer Plant and in the provision of a wood refuse extract system in the Woodwork Shop.

At the Velindre Works of the Tinplate Division, shown here, the main factory is kept at comfortable working temperature by curved radiant panels, mounted on the columns.

All in all, it was work for experts—Haden, of course.

Whenever the problem calls for *expertise*, you've got to hand it to Haden. They have the *experience*.



Acknowledgements to W. S. Atkins & Partners, Consulting Engineers, and to The Steel Company of Wales Limited.

Architects: Sir Percy Thomas & Son, Cardiff.
Installation: G. N. Haden & Sons Ltd.,
24 St. Paul's Square, Birmingham 3.

HADEN

HEATING, AIR CONDITIONING, PIPING & SANITARY ENGINEERS

G. N. HADEN & SONS LIMITED *7/12 Tavistock Square, London, W.C.1. Branches throughout the United Kingdom and Overseas.* TA 4151



Mutac Clipper switches have been accepted by the Council of Industrial Design for Design Index—so architects, consulting engineers and contractors are choosing them for their good looks, as well as for their functional efficiency and easy assembly.

just a minute!

that's all it takes to instal the 'MUTAC CLIPPER'

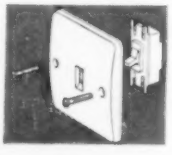
ARCHITRAVE SWITCH ASSEMBLY



PLASTER DEPTH SWITCH ASSEMBLY



Take either a 'Mutac Clipper' plaster depth or architrave switch plate and select the required switch, bell push or pilot light. Simply press home the spring clip with a small screwdriver and a fixed plate assembly is ready for installation. Available in 1, 2 or 3 gang for plaster depth and 1 and 2 gang for architrave. 'Mutac Clipper' switch assemblies will cut installation costs and save time as additions and alterations can be made with the minimum of effort.



G.E.C. INSTALLATION EQUIPMENT GROUP

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

SWITCH AND FUSE GEAR
H.R.C. FUSES
OVERHEAD BUSBARS
RISING MAINS
CONDUIT
PIRELLI GENERAL CABLE
CABLE TRUNKING
UNDER-FLOOR CABLE DUCTS
ELECTRIC WIRING ACCESSORIES
BELLS



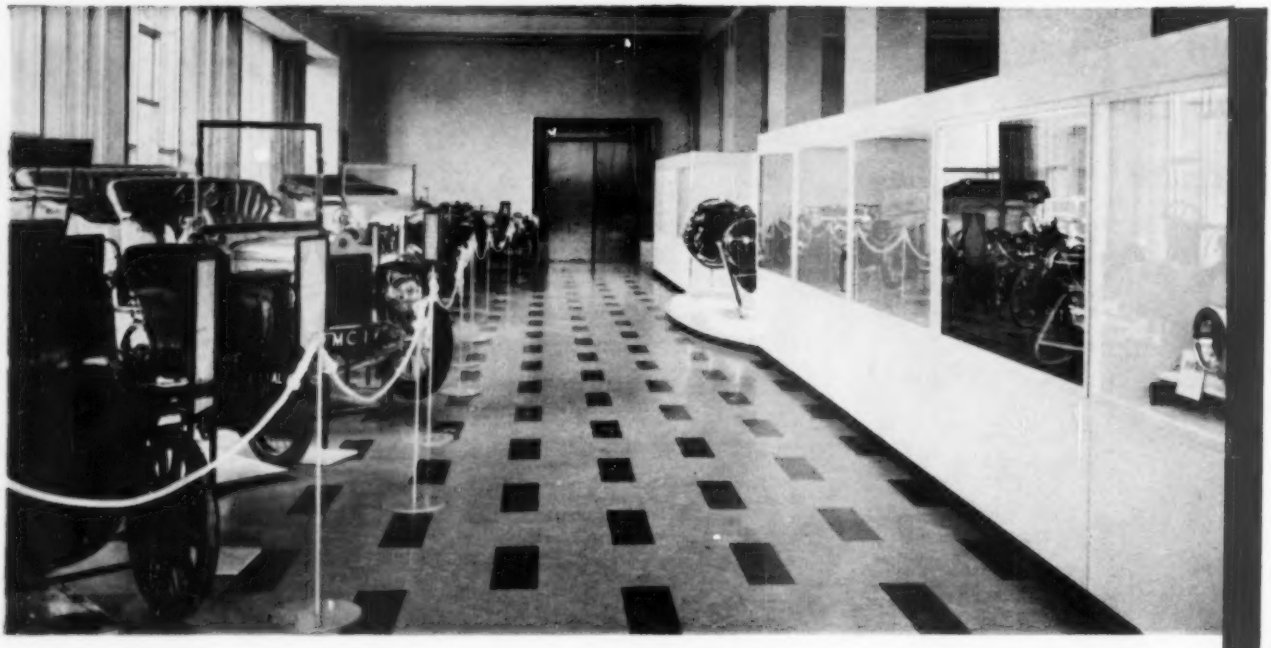
Skilfully applied steelwork (especially by Peers of Bolton) can meet the aesthetic demands of the advanced architect, give him (and his client) flexibility of design, speed of construction, maximum structural and operational economy.

Technical advice readily available.

HARRY PEERS & COMPANY LIMITED

ELTON STREET, BOLTON TELEPHONE: BOLTON: 8393 (P.B.X.) TELEGRAMS: PEERS BOLTON TELEX: 63/168

PEERS OF BOLTON FOR STEEL



These floors in the Herbert Museum and Art Gallery, Coventry are covered with Williamson's heavy grade linoleum (4.50 mm.)

Modern linoleum for modern installations

Low capital cost, ease of laying, durability, minimum maintenance, quality of finish and appearance . . . judge how you will, Williamson's linoleum is unequalled as a commercial or industrial floor covering. From the design point of view, Williamson's offer a range of linoleums with colour values carefully chosen to complement modern decors. Designers and architects can find in this range just what they need to carry through a scheme—and carry it through economically. Specialised knowledge is readily available. For advice and information, please contact the Williamson Technical Advisory Service.

WILLIAMSON LINOLEUM

JAS. WILLIAMSON & SON LIMITED · LANCASTER · FOUNDED 1844

Architect: Herbert, Son & Sawday, F/A.R.I.B.A. Contractor: Coventry Tile Co. Ltd.



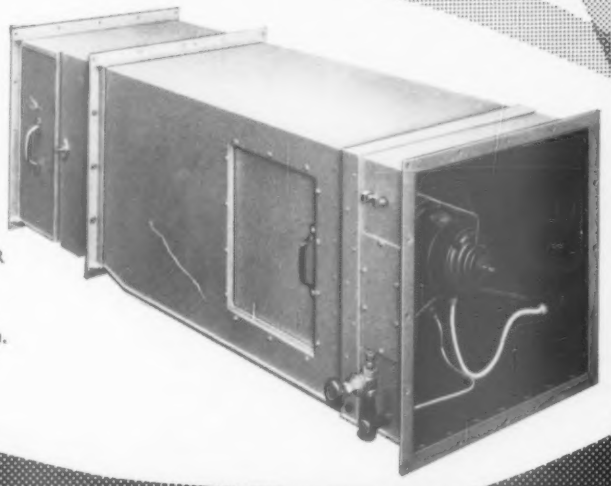
Mellor Bromley

AIR CLEANER HUMIDIFIER

for complete saturation and efficient air cleaning—with no free moisture

DATA
as illustrated
WEIGHT
approx. 2 cwts.
DIMENSIONS
1'9" x 1'9" x 5'0"
CAPACITY
800-1200 c.f.m.
1/7th H.P. MOTOR

Made in a variety of sizes up to:-
10,000-15,000 c.f.m. absorbing a total of 1.75 H.P.



***A SELF CONTAINED UNIT** easily incorporated into existing ducting*

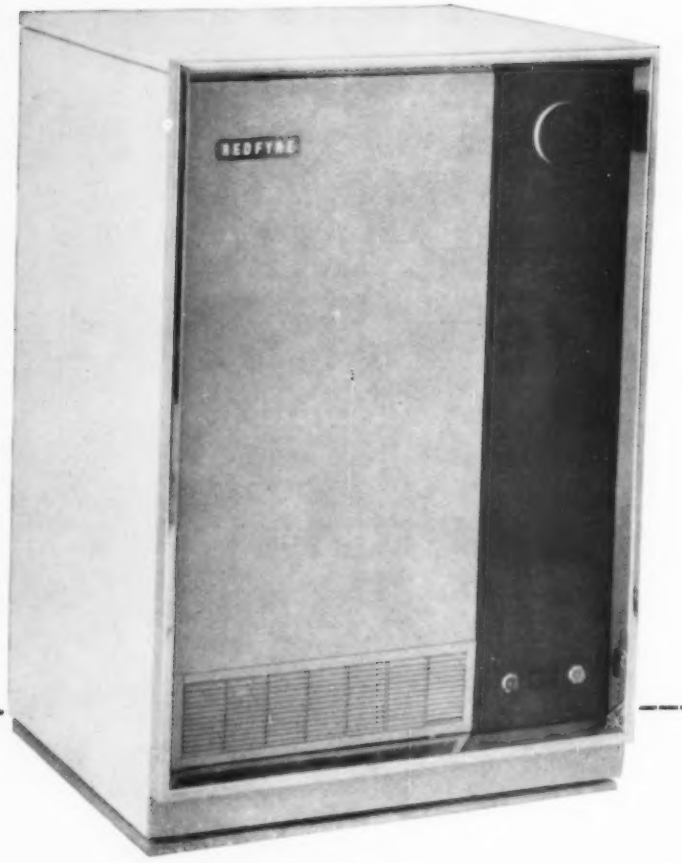
COMPACT · ADAPTABLE · INEXPENSIVE TO INSTALL AND OPERATE

- Does not require pumps, water strainers or similar ancillary equipment.
- Water is taken direct from the mains at normal pressure.
- No plant house, foundations or floor space required.
- Incorporated easily into existing discharge ducting.
- Lightweight, small and compact.
- Range of sizes to meet individual requirements.
- Automatic control by either dew-point or humidistat.
- Can incorporate own fan, humidifier, air cleaner humidifier.
- Low capital and running costs.
- Can be duplicated in branch mains for individual room control.
- No tank or dirty water load necessary-operates continually with fresh water, thus avoiding possible build-up of bacteria.
- Supplied to hospital authorities.
- Eliminates maintenance of spray nozzles, tanks etc.

Member of the Bentley Group

MELLOR BROMLEY (AIR CONDITIONING) LTD · St. Saviours Road, Leicester

Telephone: Leicester 38161. Telegrams: CONDITION LEICESTER



The new REDFYRE CENTRAMATIC REGD.

makes oil-fired central heating the *natural* choice for three or four bedroomed houses

The new Redfyre Centramatic 50 can provide full central heating and ample domestic hot water for a three or four bedroom house on as little as 25/- worth of fuel a week averaged over the year. It can do this partly because it is thermostatically controlled, and partly because of its unique electric ignition system which completely cuts out wasteful idling.

The Centramatic 50 is designed to fit perfectly into a modern kitchen. It has the right dimensions (36" high x 21" deep) and an attractive variety of 3-tone colour schemes. It is fully insulated, and does not rely on chimney draught for efficient combustion (although it needs a chimney flue in which to exhaust).

The Centramatic 50 comes as a packaged unit. It requires no specialised installation techniques. And, of course, being totally enclosed, permanently installed and fed with oil from outside the house, it is always perfectly safe.

The Redfyre Centramatic 50 is suitable for heating systems requiring up to 50,000 B.T.U.'s per hour and costs £128 retail. There is also a larger version, the Redfyre Centramatic 80, which has an hourly output of 80,000 B.T.U's and costs £149 retail.

Full technical specifications of the Redfyre Centramatic oil-fired boilers are available. Please write to

NEWTON CHAMBERS & CO. LTD., REDFYRE PRODUCTS, THORNCLIFFE, SHEFFIELD



AMBASSADORS OF TRADE

Amongst the pioneers of large scale trading, the East India Company were justly famous for their courage and enterprise which brought a new way of life to hitherto underdeveloped lands.

George Parnall & Co. Ltd., too, are ambassadors of modern trading, lesigning and producing as they do, with fine craftsmanship and good .aste the interior and window fittings of the modern store, displaying to the very best advantage the wares of the famous traders of today.

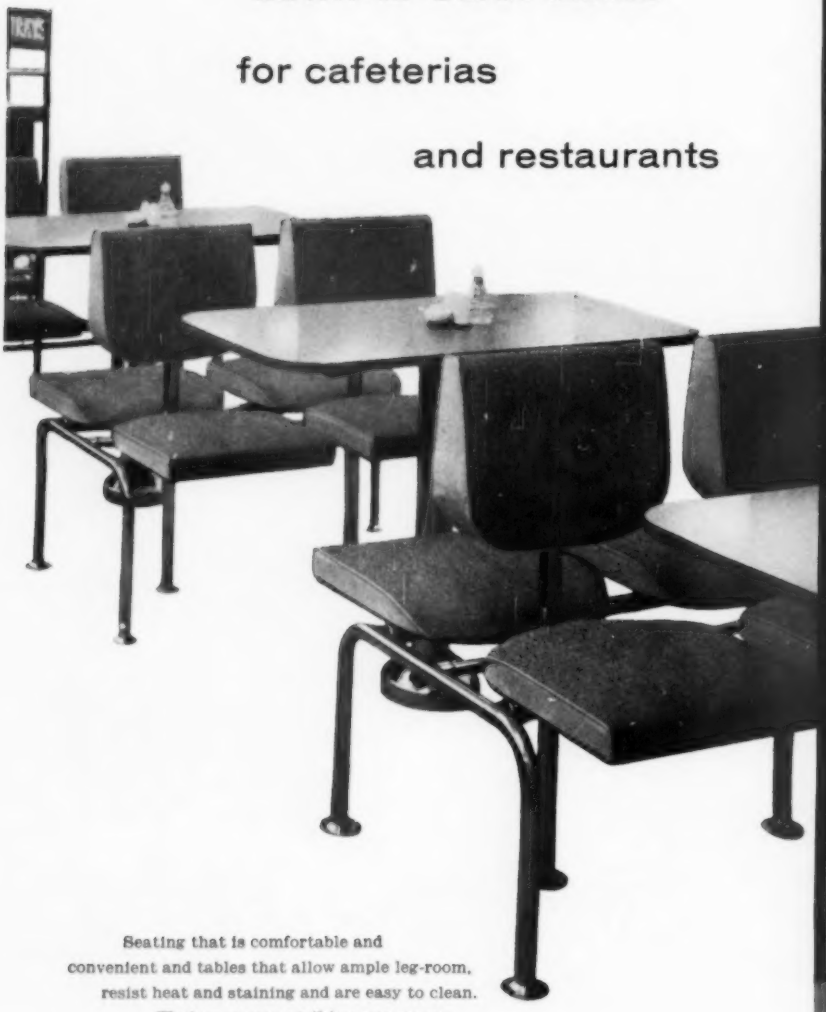
GEORGE PARNALL AND CO. LTD
4 BEDFORD SQUARE
LONDON W.C.1

Tip-up seating and

down-to-earth tables

for cafeterias

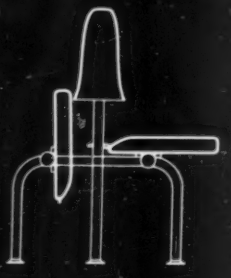
and restaurants



PEL

booth

furniture





Seating that is comfortable and convenient and tables that allow ample leg-room, resist heat and staining and are easy to clean. That sums up a striking new range of Pel booth furniture; but there is more to it than that. It includes two-seat or four-seat 'tip-up' units with pedestal or wall tables. The tables are 2' 6" high, supported by a single enamel or chromium-plated column for easy cleaning and maximum leg-room. The edges are overlapped by a flush-fitting and matching plastic veneer top, heat- and stain-resistant. The underside has a lacquer-sealed finish. Attractive colour schemes and designs are available for chair coverings and table-tops. Full details and specifications will gladly be sent on request

PEL LTD · A COMPANY · OLDBURY · BIRMINGHAM

TEL: BROADWELL 1401 6

LONDON SHOWROOMS: 15 HENRIETTA PLACE · W1 · TEL: WELBECK 1874
GLASGOW SHOWROOMS: 50 WELLINGTON STREET · C2 · TEL: CENTRAL 8886

VBW/31

new buildings – new needs and new ranges of Crittall aluminium windows, designed to match the most forward-looking architectural concepts and to meet the toughest practical demands.
Thorough research, advanced design and manufacturing techniques, a new factory specialising in aluminium windows and equipped with the most up-to-date anodizing plant—these, allied to Crittall's long experience, help to make tomorrow's buildings better to live in and work in, less costly to maintain.

UNIVERSITY OF EXETER ARTS BUILDING, *fitted with Crittall aluminium double hung sash. Architects: Sir William Holford and Partners. Contractors: John Garrett & Sons Ltd.*

and WINDOWS by CRITTALL

Write for leaflets
THE CRITTALL MANUFACTURING CO. LTD
BRAINTREE · ESSEX · *Branches and depots throughout the country*



TBW/120

BOOTH Steelwork

cuts the cost of

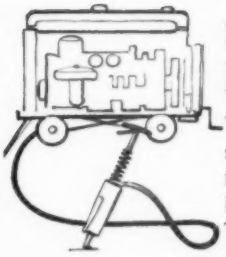
every type of steel structure

Booth Steelwork for Boots the Chemists

Below is a photograph of the steelwork erected for Boots the Chemists' new shop on the corner of Bridge Street and Deansgate, Bolton.

Architect: C. St. C. Oakes, M.B.E., F.R.I.B.A.

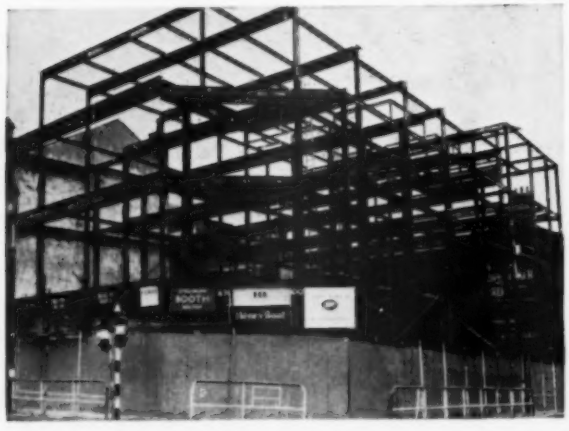




Booth Steelwork for Ingersoll-Rand

The photograph below shows steelwork in course of erection for extension to this well-known company's premises at Trafford Park, Manchester.

Architect: Harry S. Fairhurst & Son, F/A.R.I.B.A.





BOOTH Steelwork

JOHN BOOTH & SONS (BOLTON) LTD., HULTON STEELWORKS, BOLTON. BOLTON 1195

London Office: 26 Victoria Street, Westminster, S.W.1. Tel: ABBey 7162

COLOUR SERVICE COLOUR SERVICE

technical service in action No. 6

Problems associated with painting of new plaster

The development of new types of plaster, and the desire to occupy buildings at the earliest time possible, has brought in its wake many problems in the painting of plaster.

A new building contains many tons of water which went into it during construction, and a building of any size literally hundreds of tons. Some of this water enters into combination, such as in the setting of cement, but the main quantity is slowly evaporated from the building surfaces.

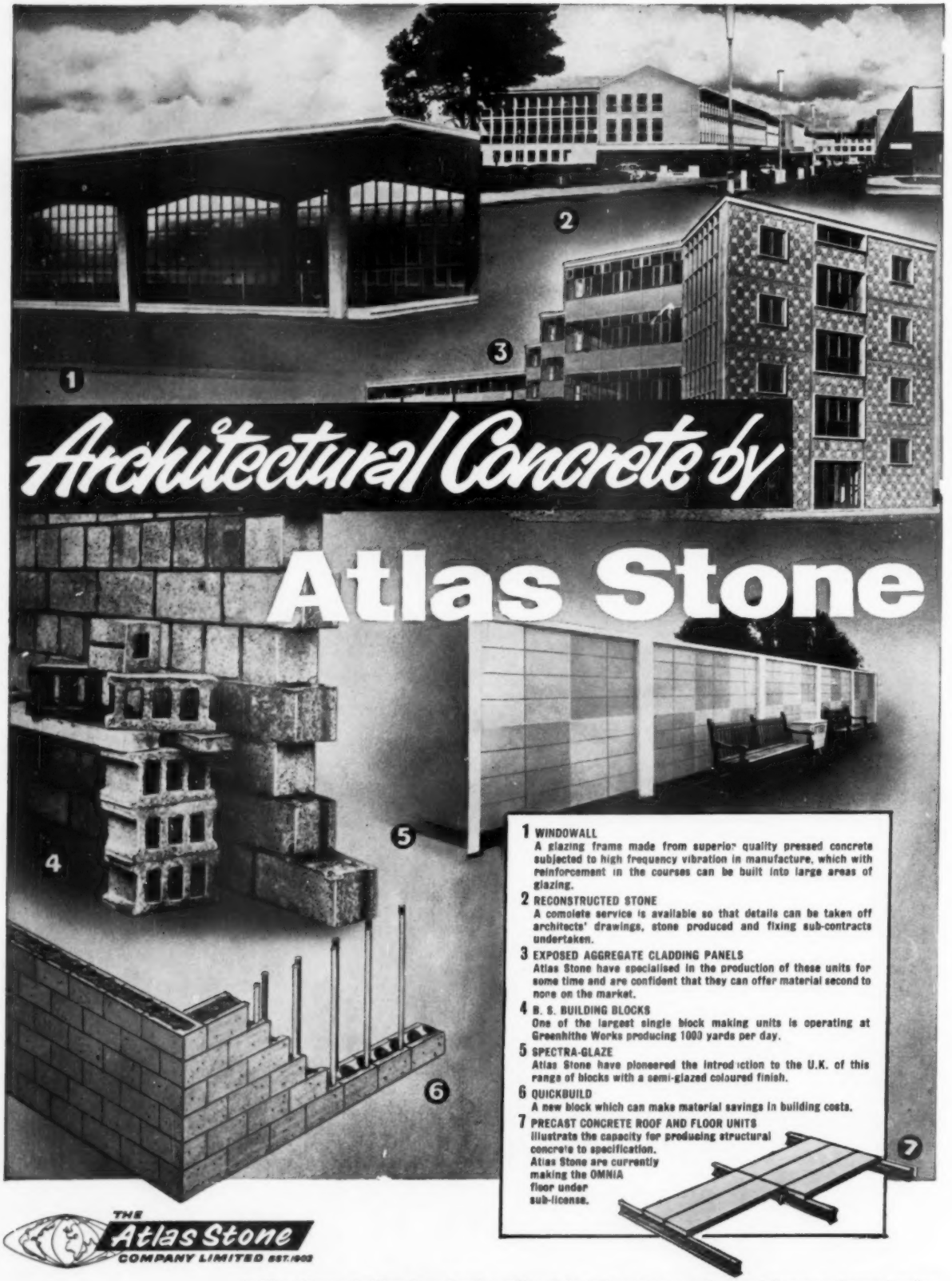
The plastered surfaces of any building are the surfaces from which free evaporation of water takes place, and, under certain circumstances, the pressure exerted upon an impermeable paint may amount to many tons to the square inch. It is then no accident when impermeable paint films are literally pushed away from the plaster of new buildings.

It is advisable to allow plaster in a new building to dry out thoroughly before painting. This is often impossible and probably the next stage is to apply a coat of water paint as a temporary decoration. Such a coating is permeable and allows water vapour to leave the surface freely.

The water leaving a plaster surface often contains soluble salts and these are left on the surface as an unsightly deposit. This problem of efflorescence can only be solved by knowing all the facts peculiar to any one building, but in general it may be said that to delay or prevent efflorescence on the surface of plaster, another means of egress of the water must be made available. Often, by care in the choice of decorating materials of differing water vapour permeability, efflorescence and other plaster defects may be minimised. Many such materials are available about which full advice and guidance will gladly be given by our Technical Service Department.

Goodlass, Wall & Co. Limited, The Corn Exchange, Liverpool 2 or 179/185 Gt. Portland Street, London W.1.

SERVICE



1 WINDOWALL
A glazing frame made from superior quality pressed concrete subjected to high frequency vibration in manufacture, which with reinforcement in the courses can be built into large areas of glazing.

2 RECONSTRUCTED STONE
A complete service is available so that details can be taken off architects' drawings, stone produced and fixing sub-contracts undertaken.

3 EXPOSED AGGREGATE CLADDING PANELS
Atlas Stone have specialised in the production of these units for some time and are confident that they can offer material second to none on the market.

4 B. S. BUILDING BLOCKS
One of the largest single block making units is operating at Greenhithe Works producing 1000 yards per day.

5 SPECTRA-GLAZE
Atlas Stone have pioneered the introduction to the U.K. of this range of blocks with a semi-glazed coloured finish.

6 QUICKBUILD
A new block which can make material savings in building costs.

7 PRECAST CONCRETE ROOF AND FLOOR UNITS
illustrate the capacity for producing structural concrete to specification.
Atlas Stone are currently making the OMNIA floor under sub-license.

THE Atlas Stone COMPANY LIMITED EST. 1903

Artillery House, Artillery Row, London, S.W.1. Tel.: ABBey 3081-2-3-4. Grams.: Atlastonco, Sowest London

Works at: GREENHITHE . STROOD . MELDRETH . CAMBRIDGE . SHORNE . RYE (SUSSEX) . GREAT YARMOUTH



Enter—a breathtaking advance in bathroom luxury

Daring advances in architectural design have found expression in recent years. And now–at last–a single idea heralds a new era in bathroom design.

This bold conception, inspired by Formica Ltd–the VANITORY UNIT–can combine in one space-saving advance, handbasin, taps, dressing table drawers, mirrors, towel rail, strip lighting . . . beautifully surfaced in the colourful range of Formica decorative laminates . . . all so easy to keep clean.

With Formica decorative laminates you can design your own Vanitory Units to blend exactly with your overall plan . . . or you can choose from a wide range already produced by over 40 manufacturers. Full information and lists of manufacturers are freely available on request.

FORMICA* reg'd.
VANITORY* units

FORMICA–THE FINEST OF ALL THE DECORATIVE LAMINATES

FORMICA Ltd, De La Rue House, 84/86 Regent Street, London, W.1.

*FORMICA and VANITORY are registered trademarks



At last it is possible for British architects and designers to specify *ARBORITE*. Unchallenged as the predominant decorative and industrial laminate in Canada, and already well known in more than sixty countries, *ARBORITE* is now available in the United Kingdom.

For panels, facings, fittings and furniture in buildings great and small, *ARBORITE* offers a versatile surfacing material with a new-found range of colour and effect—with wood-grains of outstanding realism—with marble finishes as cool and classical as Carrara rock—with inlays and exclusive silkscreen designs that permit you to carry an original decorative theme right through your work.

Produced to satisfy the client's requirements, to inspire the architect and designer, and to meet the practical needs of the builder, *ARBORITE* is ready to provide an extensive choice of laminates with which to "face the future".



CHOICE OF TWENTY-NINE SHEET SIZES





UNIQUE EDGE TRIM AND TWIN TRIM



LEADERS IN POST-FORMING AND BENDING GRADES



SPECIAL DESIGN AND ADVISORY SERVICE

Write

for full information to

THE ARBORITE COMPANY (U.K.) LIMITED
BILTON HOUSE,
54/58 UXBRIDGE ROAD,
EALING, LONDON, W.5
Tel: Ealing 0116

(a subsidiary of The Arborite Company Ltd of Montreal, and Quebec, Toronto, Winnipeg and Vancouver)

THE NEW SURFACE FOR BRITAIN

Face the future with **ARBORITE**

CANADA'S LEADING LAMINATE





everything points to FILON



1 *Louvres in clear FILON flat sheet.*

2 *Push panel to door FILON flat sheet. Red 103.*

3 *Sliding doors to enclosure back. White flat sheet infills of FILON. White 704.*

4 *Soffit to Hood in FILON flat sheet. Red 103.*

5 *Corrugated sheet to fascia. White 704.*

6 *Upper part to window enclosure in FILON corrugated. White 705.*

For all kinds of snops, FILON points the way, bringing new textures and colours to exterior and interior. FILON is strong, light; it is easy to fix and can be worked with ordinary carpenter's tools. And once fixed, *needs little attention.*

This new polyester/glass fibre sheeting is available in many attractive colours and tints in standard corrugated, flat sheet (in rolls if required) and decorative profiles.

Easy to handle, easy to work, easy to fix, FILON can show substantial economies as well as opening up entirely new creative possibilities in shopfitting design. *Write for full details.*

FILON

STRUCTURAL SHEETING

strong translucent

B.I.P. REINFORCED PRODUCTS LIMITED · STREETLY WORKS · SUTTON COLDFIELD · Phone: Streetly 2411

'Paints? We can depend on Mason's. Remember the Belle Isle G Plan project at Leeds?'



* Belle Isle Secondary School. Architects—Samuel Morrison & Partners, in conjunction with the late R. A. H. LIVETT ESQ., OBE, ARIBA, Leeds City Architect. Contractors—Gee, Walker and Slater Ltd. Paints used—MASOPAR AND MASOTEX.

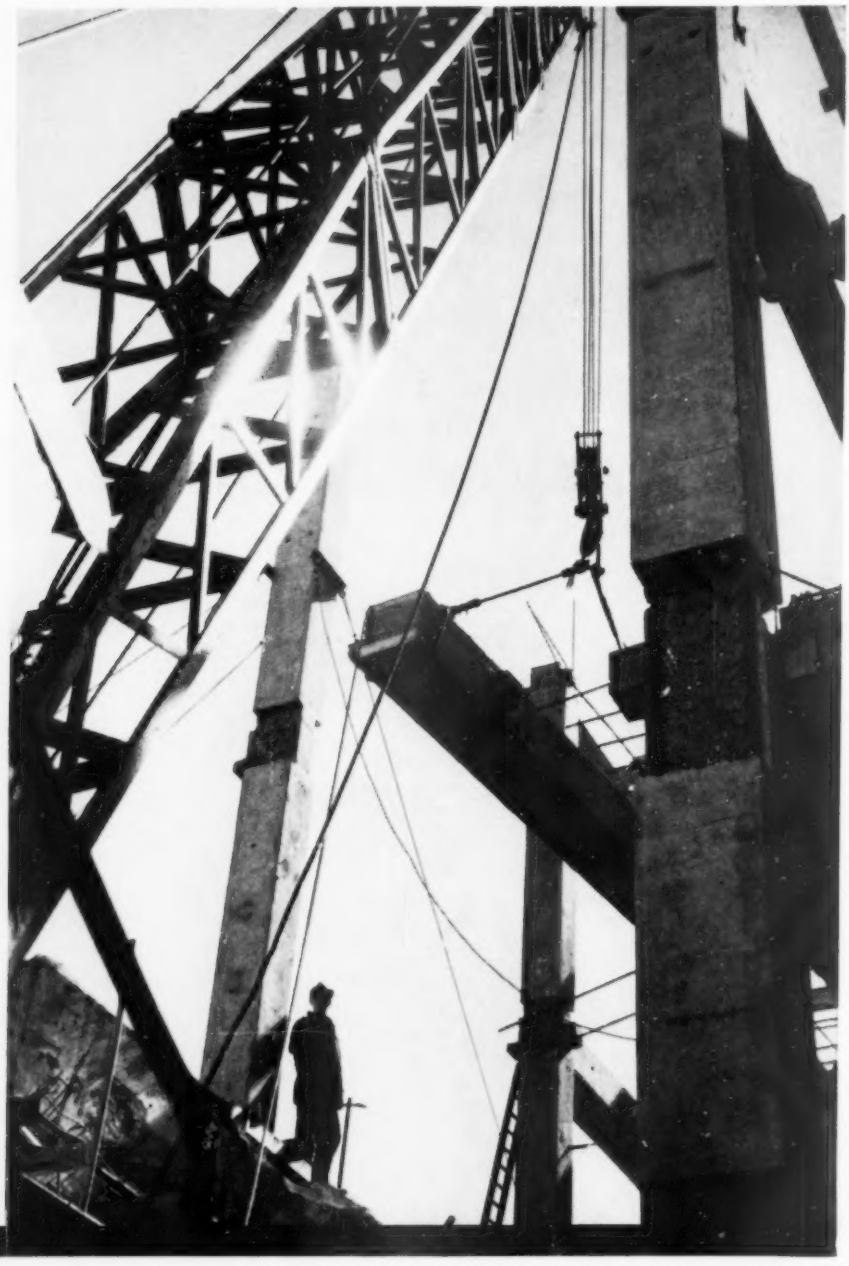
Have you had your copies of our two helpful books for architects—"Joseph Mason Paint Specifications" and "Architects' Special Colour Range".

joseph mason paints

JOSEPH MASON & COMPANY LIMITED · DERBY · TEL: 40691-2-3

DEPOTS: LONDON · PRESTON AND KIRKCALDY · SCOTLAND

Manufacturers of very good paints since 1800



VACANT SITE TO FULL PRODUCTION IN 17 MONTHS

The £700,000 Hoddesdon project is another example of how Cubitts' go-ahead construction approach is helping industry.

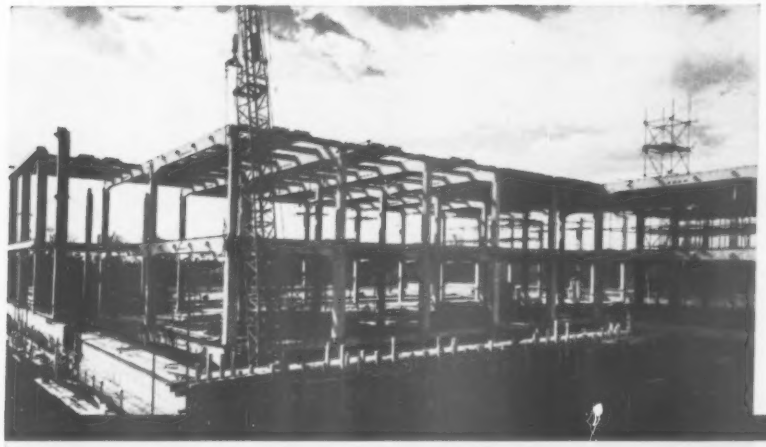
Merck, Sharp and Dohme, pharmaceutical manufacturers needed their new laboratory building as quickly as possible. So they and their architects, Edward D. Mills & Partners, F/ARIBA, nominated Cubitts for the project.

It was decided to use prestressed and precast reinforced concrete construction. This method advanced progress by many weeks, cutting out the time needed for on-site concrete work, and offsetting shortage of suitable labour around Hoddesdon. Time and cost were saved, too, by planning to optimum usage of plant for the size of concrete units employed.

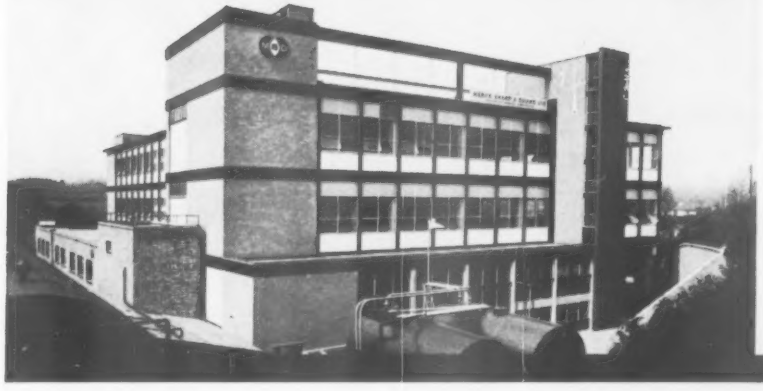
To ease their client's output problem even more quickly, Cubitts arranged to complete first the middle portion of the new building, which contained the main mechanical services. By installing the service risers in one vertical duct, floor levels were served and put into use as general construction work finished on each.

Only 11 months after delivery of the first precast columns, the new building was producing for Cubitts' client, and six months later the take-over was complete. Through early collaboration with client and architect, Cubitts were able to complete the plant much sooner than with orthodox construction methods.

Another reason was Cubitts' co-ordinated construction service which brought in their associates Engineering Service Installations Ltd. for mechanical services and plant erection, Concrete Development Co. Ltd. for the concrete frame, and their own Joinery and Painting Departments for specialist work.



Another Cubitts' client is on the way up! Precast main beams and 65ft long reinforced concrete columns were made by Concrete Development Co. A member of Cubitts organisation, they collaborated closely with the Consulting Engineers J. C. Hughes & Partners.



The new Merck, Sharp and Dohme laboratory building at Hoddesdon incorporates the latest air conditioning, sterilising and refrigeration plant. 67 feet high, it covers a total floor area of about 75,000 square feet on a ½ acre site that provides for future expansion.



Mr. T. W. Rayner, Managing Director of Merck, Sharp and Dohme; says: "I can fully endorse the value of collaboration from the planning stage between client, architect and contractor. Knowing the difficulties involved in planning and constructing our Hoddesdon plant, I am fully satisfied with the results: not only did we go into full production within 17 months, but construction costs were kept strictly within the original estimate."

Mr. R. D. McLeod, Director of Cubitts, says: "We like to have the opportunity of participating in the planning of our clients' projects. Fast construction at economic cost follows from the application of specialist services and practical experience available within our organisation. Applied at Hoddesdon, this was a major factor in the successful completion of the project."



CUBITTS

HOLLAND & HANNEN AND CUBITTS LTD.,
ONE QUEEN ANNE'S GATE, LONDON, S.W.1.

LONDON · EDINBURGH · GLASGOW · NEWCASTLE · LIVERPOOL
BRISTOL · TORONTO · MONTREAL · VANCOUVER · WELLINGTON
N.Z. · PORT OF SPAIN · BEIRUT

The Swedish Kitchen comes to Britain



Kitchen designed by Messrs. Ballingslofs Träförädling, Sweden

Fitting the kitchen to today's ideas

The Swedish Kitchen brings the housewife's dream to life . . . and in Elektrohelios built-in appliances Swedish Kitchen appeal is at peak level. Manufactured in Sweden's famous Elektrohelios factories and marketed in Britain by this organization, the up-to-the-minute appliances in the photograph are adaptable to cabinets of a variety of British makes. 'Adaptable' is a keyword for Elektrohelios models. With their all-same-level advantage to 'clean line' appearance . . . and their virtues of saving labour, time and steps . . . they can be integrated into a hundred-and-one contemporary schemes geared to large or small budget. The immense possibilities for homes now in blueprint have stirred the imaginations of the many architects who have approached us. A visit to these showrooms could well prove an inspiration in your own case.

by

ELEKTRO HELIOS

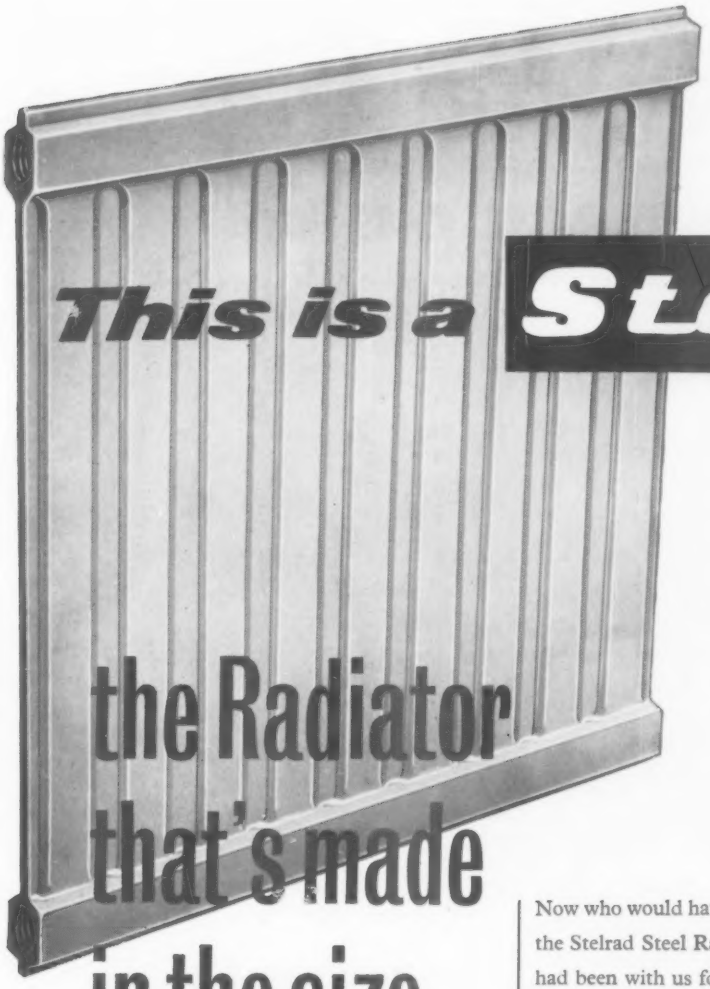
OF SWEDEN

Housewives' choice. Elektrohelios build-in ovens make it so easy to delight the housewife with the appeal of right-height cooking—better results—truly modern appearance. Special features include high capacity Infra-red Grill, interior light, window for easier cooking.

'King Cold' advantages. The refrigerator shown is an Elektrohelios 'King Cold' Swedish design and superb engineering unite to ensure grace of line, utmost use of space and high efficiency. Three sizes available, with choice of de luxe and standard models in the 3 cu. ft. size

Contemporary cooking unit. The Elektrohelios build-in electric cooking unit (countertop for flush mounting) comes in three different models with hotplates numbering up to three.

HELIMATIC LTD., 22-24 BUCKINGHAM PALACE ROAD, LONDON, S.W.1. TELEPHONE: VICTORIA 3056



This is a Stelrad

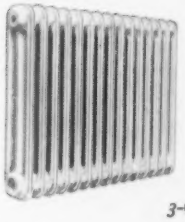
the Radiator that's made in the size you want, and in the shape your client likes



Double Wall

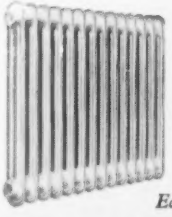


Angle-Wall



3-Column

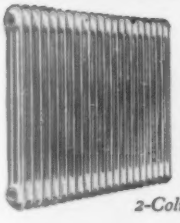
Now who would have thought the Stelrad Steel Radiator had been with us for nigh on twenty-five years? Why, you can probably remember people telling about it at the time.



Easy Clean

Stelrad PATENTED PROCESS RADIATORS

Some were doubters, holding forth about steel and how the only Radiator to use was one that was not only heavy to handle but ungainly to behold. But where is the Stelrad today? In buildings large and small throughout the length and breadth of the land, and in a range so wide there is not a single nook a Stelrad cannot heat.



2-Column



Window seat type

STEEL RADIATORS LIMITED

BRIDGE ROAD, SOUTHALL, MIDDLESEX · Telephone: SOUthall 2603

For more than a century TEMPLETON have been supplying contract carpeting for palaces, cathedrals, ships and hotels — anywhere in fact that requires distinctive designs and good qualities.

Now TEMPLETON have added Crown BROADLOOM to their wide range of contract carpeting, making available in BROADLOOM the famous Crown quality, which has already been recognised throughout the world for its unsurpassed worth.

Crown **BROADLOOM**

is available in 9ft. and 12ft. broadloom also in narrow widths 27 and 36 inch, all matching selvedge to selvedge; in 12 classic patterns each created by expert designers to harmonise with today's fabrics.



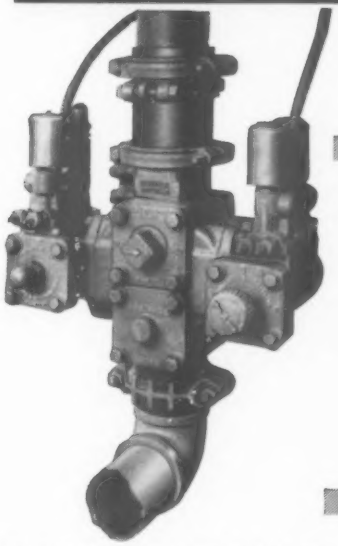
TEMPLETON

Weavers of the finest carpets in the world

JAMES TEMPLETON & CO LTD Templeton Street **GLASGOW** LONDON MANCHESTER LEEDS BIRMINGHAM

H & C OILDRAULIC LIFTS

FOR MEDIUM TRAVEL INSTALLATIONS

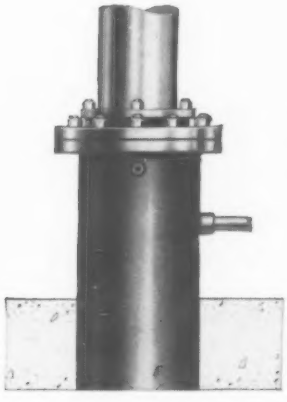


The "brains" of the oildraulic lift is an exclusive patented device that interprets the instructions given by buttons on the operating panel. This remarkable controller is unequalled for accurate control and easy adjustments.

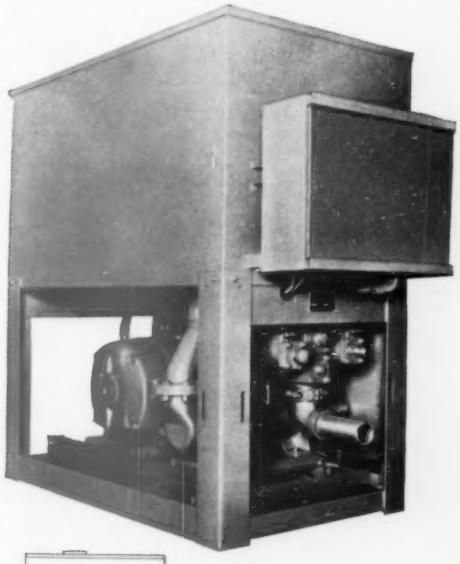


No overhead motor room
No counter balance weight
No ropes or sheaves
No winding gear
No brake
No imposed load on lift shaft structure
Accurate floor levelling
Simple to maintain

★ Over 26 years of research and development have perfected the H & C Oildraulic Lift. Trouble-free, efficient, safe and economical. Provides the ideal system for motor car and heavy goods lifts travelling medium distances. Also suitable for large passenger lifts of medium travel where head room is limited.



The Oildraulic Ram and Cylinder is a high efficiency precision built mechanism to give trouble free service.



The entire motor, pump and oildraulic controller assembly is contained in a neat, compact housing with overhead oil reservoir. All mechanism is easily accessible.

Hammond & Champness Ltd

Gnome House, Blackhorse Lane,
London, E.17
Phone: Larkswood 1071

Interesting and informative brochure 498-60 on H & C Oildraulic Lifts gladly sent on application

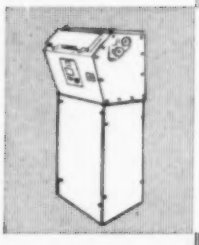


Reyrolle

Ranges



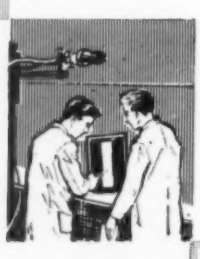
10 to 60 amperes at 6·6/11 kV
15 to 100 amperes at 3·3 kV
The fuse-links are fully A.S.T.A. certified in accordance with the requirements of B.S. 2692.



Purpose

Suitable for use in H.V. fuse-switches requiring a 10″ × 2½″ oil-immersed cartridge fuse-link fitted with striker-pin tripping-device.

Manufacture



Every stage of manufacture is subject to careful quality control to ensure, amongst other things, complete oil-tightness. All fuse-links are checked by X-ray examination during and after assembly.

Type Test Data

RATING		BREAKING-CAPACITY	A.S.T.A. CERTIFICATE NO:
CURRENT(amps)	VOLTAGE (kV)		
60	6·6/11	250 mVA at 11 kV	3866
60	6·6/11	250 mVA at 6·6 kV	3976
60	6·6/11	150 mVA at 6·6 kV	3977
60	3·3	75 mVA at 3·3 kV	4013
100	3·3	75 mVA at 3·3 kV	4061

A. Reyrolle & Company Limited - Hebburn - County Durham - England





when a flush door attracts ten to one it's a

Leaderflush

BRITAIN'S FINEST FLUSH DOOR

Architects and Builders are requested to send for quotations and also to make use of our advisory service

There is a quality in LEADERFLUSH Flush Doors which is unmistakable. It is a quality which is not only apparent on the surface but which goes right through. LEADERFLUSH Flush Doors are made for long, lasting service, always stable always good to look at. Site finishing is reduced to a minimum (doors specified for varnish, lacquer or polish are 'VELVET-SEAL'ed, only one coat of finishing agent is then required). Maintenance costs are non-existant. The quality is right, the price is right.

LEADERFLUSH (Doors) LTD, TROWELL, NOTTINGHAM. Telephone: Ilkeston 623 (5 lines)

LONDON OFFICE: BUSH HOUSE, ALDWYCH, LONDON W.C.2. Tel: COVent Garden 2243

603 Cogent



STEEL GIVES STRENGTH

Colvilles have built up a reputation as suppliers of all types of Structural Steel - Light and Heavy Sections, Joists and Plates - to all specifications. Colvilles can supply a range of High Strength Steels under our DUCOL series with a minimum yield strength of 23 tons per square inch and upwards.
These special steels are in regular production and can be supplied in accordance with our rolling programme.

COLVILLES
FITNESS FOR PURPOSE STEELS

COLVILLES LIMITED 195 West George St., Glasgow C.2.



for abundant even light...
durability...
safety and economy...

GLASS
IN PATENT GLAZING

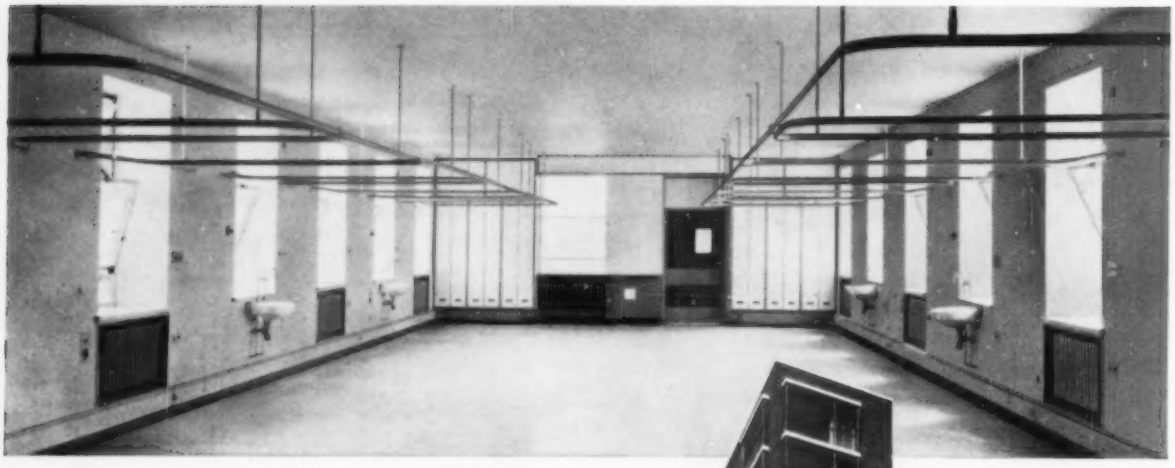
THE PATENT GLAZING CONFERENCE is an old-established trade association representing the interests of specialist sub-contractors engaged in the design, manufacture and installation of Patent Glazing for the daylighting of industrial and other buildings. Its name and symbol is a guarantee that glazing will be carried out by highly skilled craftsmen using the finest of materials.

P G C

THE PATENT GLAZING CONFERENCE

BURWOOD HOUSE · CAXTON STREET · LONDON · SW1

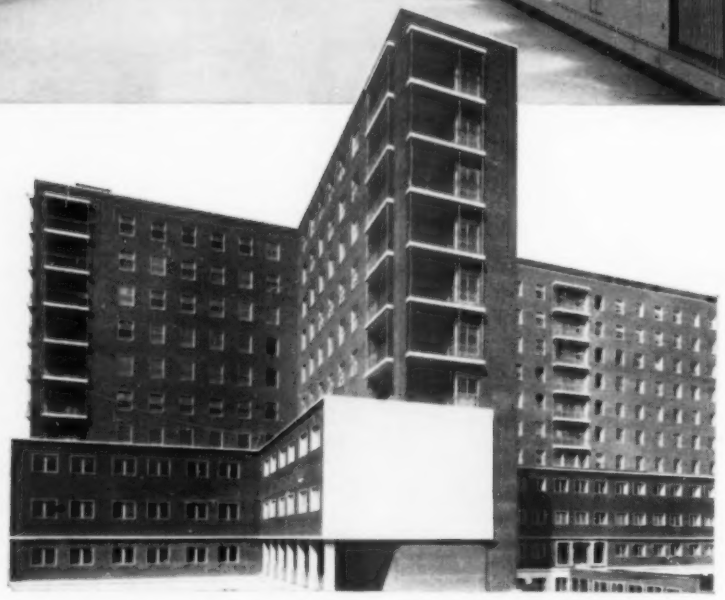
1,000 Ideal radiators go into new surgical block at Guy's Hospital



Architects:
W. H. WATKINS, GRAY & PARTNERS

Consulting Engineers:
HOARE LEA & PARTNERS

Heating Engineers:
ENGINEERING SERVICE INSTALLATIONS LIMITED



The large new surgical block at Guy's Hospital, London, incorporates the most advanced and trustworthy equipment in the widely varying fields of medicine and building. It is natural, therefore, that IDEAL Neo-Hospital Radiators were chosen to give the dependable heating service required in a hospital of this kind. Where there are a thousand radiators involved, reliability is imperative. The IDEAL cast-iron radiators fitted at Guy's will not suffer from corrosion and will therefore last the life of the hospital.

IDEAL cast-iron radiators

cast-iron because it's dependable

IDEAL BOILERS & RADIATORS LIMITED · IDEAL WORKS · HULL

403

WATES build

High Flats in Southgate

. . . a concrete example of co-operation

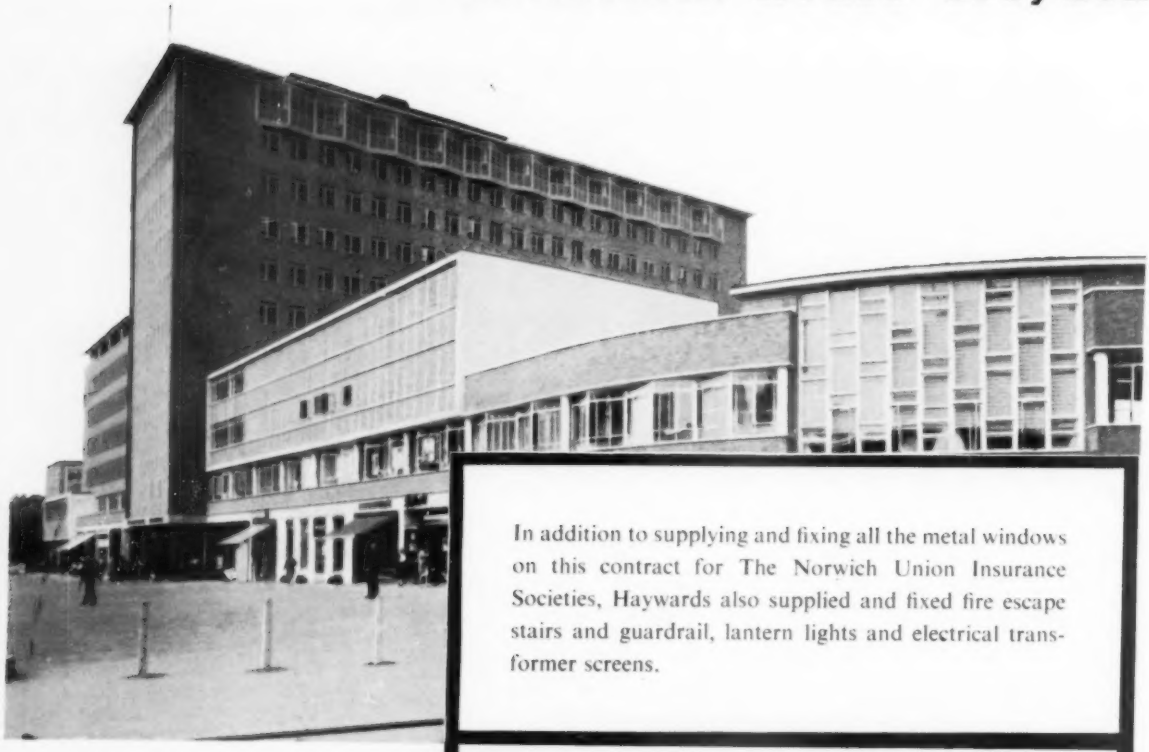


WATES build multi-storey flats for both private developers and local housing authorities. These two blocks, currently nearing completion for the Borough of Southgate, are a typical example of Wates specialised experience in this type of construction, and a rewarding result of close co-operation between the architects: David du R. Aberdeen & Partners; the consulting engineers: Ove Arup & Partners; and the contractors: Wates Limited, who are proud to have been associated with this well-planned project.

WATES build

WATES LIMITED, 1260 LONDON ROAD, NORBURY, LONDON, S.W.16 POLLARDS 5000

metal windows at Norfolk House Croydon



In addition to supplying and fixing all the metal windows on this contract for The Norwich Union Insurance Societies, Haywards also supplied and fixed fire escape stairs and guardrail, lantern lights and electrical transformer screens.



Architects :
Messrs. Howell & Brooks
Consultant Architects :
T. P. Bennett & Son
Contractor :
Myton Ltd.

HAYWARDS LTD.

HAYWARDS LTD · UNION STREET · LONDON SE1

TELEPHONE : WATERLOO 6035

TELEGRAMS : HAYWARD BROTHERS, SEDIST, LONDON

24

different types of fixing devices for Speed and Strength

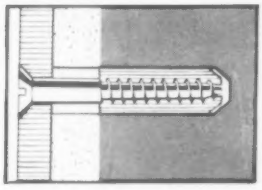
Cut your costs with

RAWLPLUG FIXING DEVICES

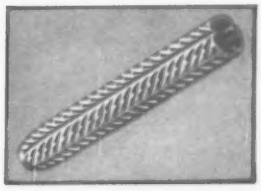
FOR SPEEDY FIXING IN ANY MATERIAL

No more trouble or costly delay because the material was 'difficult'! Whether it's concrete or plastic, breeze or sheet metal, cavity brick or lath and plaster, there's a Rawlplug Fixing Device that makes firm screw or bolt fixings quickly, easily and economically. The speedy answer to every fixing problem is one or other of the 24 different types of Rawlplug Fixing Devices. Write for illustrated brochure.

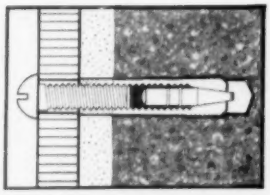
Screw Fixings



Use the famous RAWLPLUG for neat, firm fixings in brick, stone, etc. All sizes up to ¾" diameter Coach Screws. Rawlplugs are waterproof and unaffected by climatic conditions.

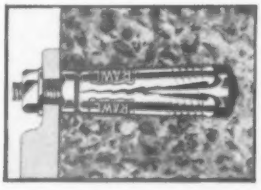


Rawlplug WHITE BRONZE PLUGS are specially suitable when the fixing is subject to very high temperatures, such as the outer brick coverings of furnaces. Use also for under-water fixtures.

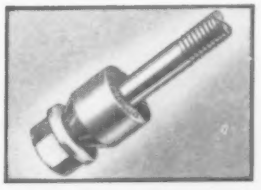


NEW! RAWLSETS, for $\frac{5}{32}$" and $\frac{3}{16}$" Whit. screws, are metal shell sockets which grip by expansion. Ideal for fixing signs, stoves, metal windows, fluorescent light fittings, etc. Write for leaflet.

Bolt Fixings



For bolting down machines, use RAWLBOLTS, a *dry* fixing that grips by expansion. No cold chiselling, no waiting for concrete to harden. Sizes up to 1" bolt diameter.

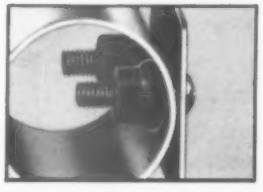


Use Rawlplug BOLT ANCHORS for bolting down in extremely wet or corrosive situations. Caulking completely seals the anchorage. Use also for anchoring Diesel Generators, Power Hammers, etc.

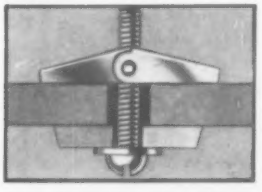


Rawlplug CEMENT-IN-SOCKETS are positioned before concrete is poured, eliminating hole-boring. They provide strong, permanent fixings wherever bolt locations can be pre-determined. For bolt diameters ¼" to 1".

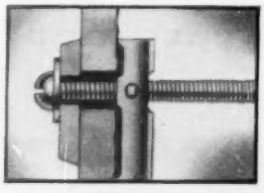
Cavity Fixings



Screwed up from the front the amazing RAWLNUT forms its own rivet head behind the material—airtight, watertight, vibration-proof, squeak-proof! For all thin or hollow materials.



For ceilings of lath and plaster, plasterboard, etc., use Rawlplug SPRING TOGGLES. The inserted Toggle springs open behind the material, spreading the load over a wide area.



Rawlplug GRAVITY TOGGLES are ideal for hollow materials from $\frac{1}{16}$" thick. Inserted horizontally, the long end falls into correct position by gravity. The screw is then tightened in normal way. For ⅛", $\frac{3}{16}$" and ¼" Whit. Screws.

RAWLPLUG

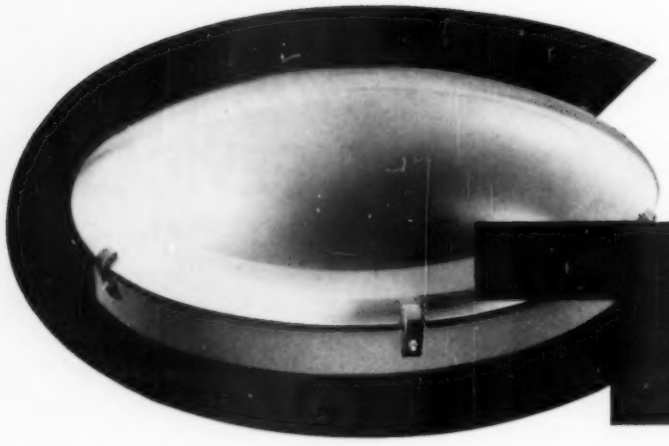
FIXING DEVICES

USED BY THE MILLION THROUGHOUT INDUSTRY

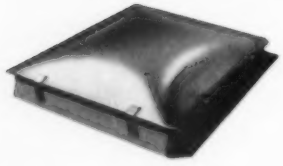
Made by THE RAWLPLUG CO. LTD., CROMWELL ROAD, LONDON, S.W.7

The World's largest Manufacturers of Fixing Devices

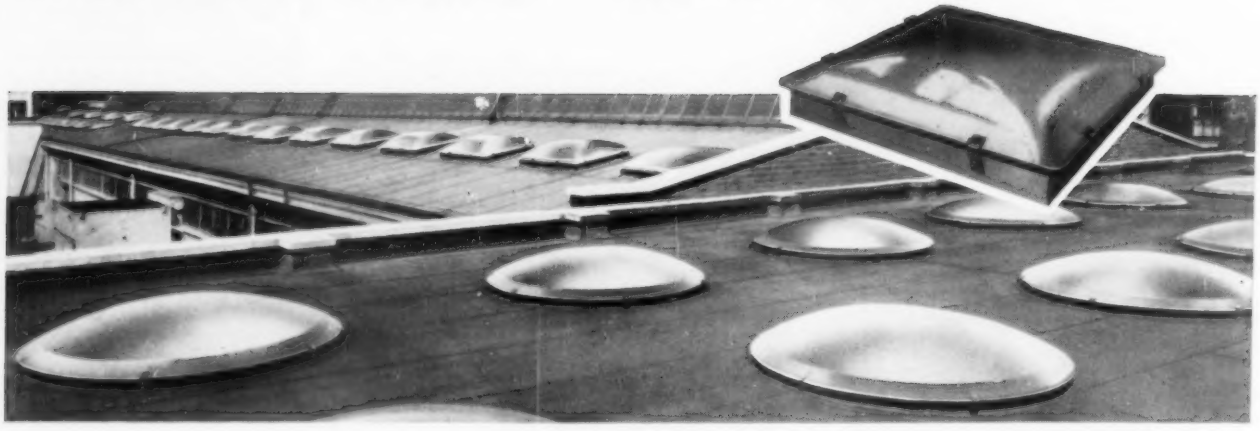
B559A



Glass roof domes



last for ever!



- pass ample light
- need no maintenance
- are fire resistant
- never lose their shape

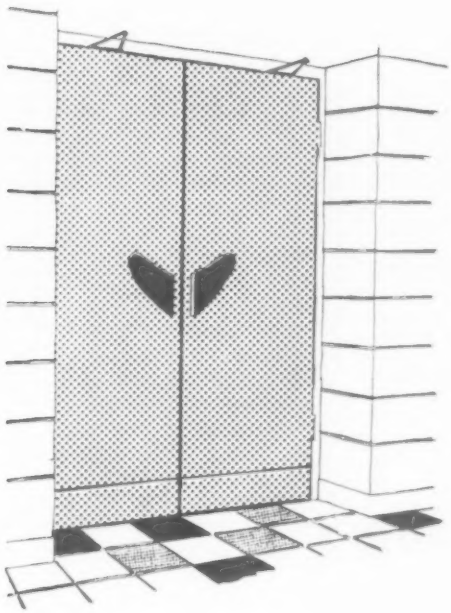
Glass roof domes have many advantages over other forms of roof lighting . . . they last for ever, pass ample light, and are fire resistant. Glass roof domes are leak-proof, and easy to fix on metal, wood or concrete curbs; they need no maintenance and *never lose their shape.*

Think of glass roof domes for your next building.

specify **GLASS** roof domes

Glass Benders Association

6 MOUNT ROW, LONDON, W.1. MAYFAIR 8334

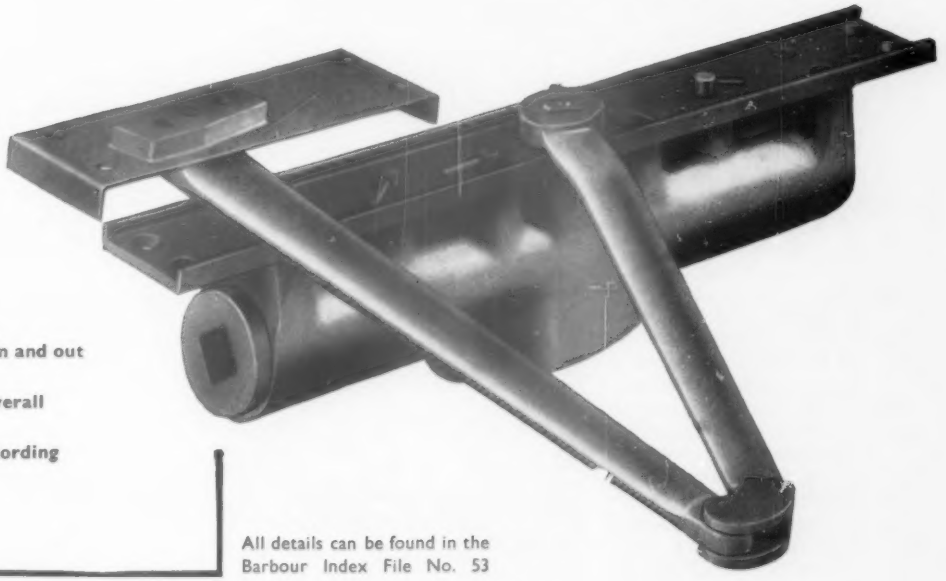


Only the SLIM arms can be seen

The "BRITON 500" is a door closer designed for use when the appearance of the door and surroundings are of first consideration. With nothing visible except the slim arms, which are styled to be as streamline and unobtrusive as possible, it achieves complete concealment without loss of power or door control. The "BRITON 500" is suitable for internal single-action doors not exceeding 7′ by 3′ in size, and 112 lbs. in weight.

THE BRITON 500

Concealed Door Closer



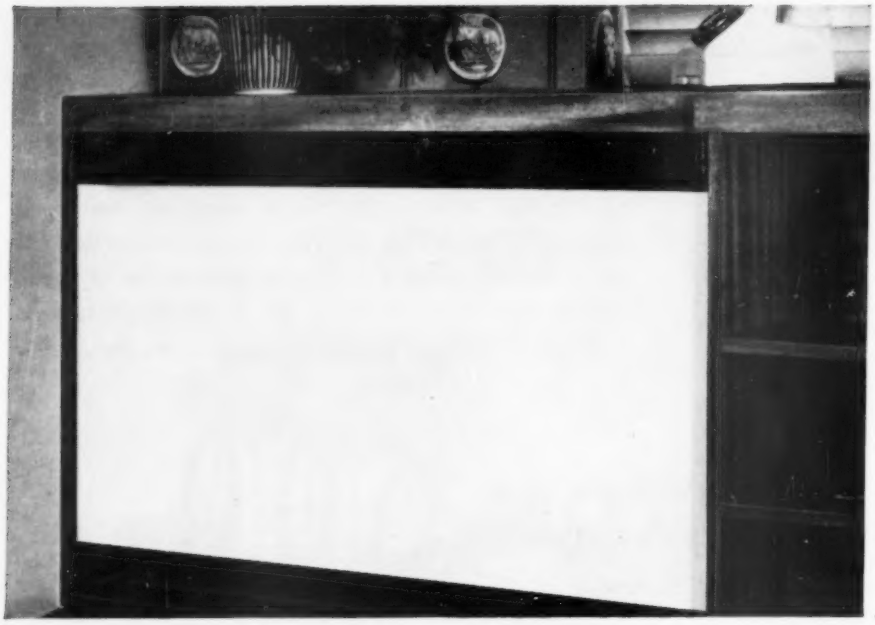
- ★ Smooth and silky check-action.
- ★ Bounce completely eliminated.
- ★ Closing and latch speed fully adjustable.
- ★ Stand open device put in and out of action as desired.
- ★ Body only 1¾in. wide, overall length 13in.
- ★ Opens to 90° or 180° according to fixing position.
- ★ No oil leakage.

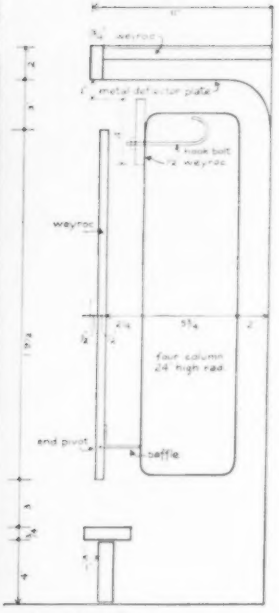
All details can be found in the Barbour Index File No. 53

See our exhibits at the Building Centre, 26 Store Street, London, W.C.1

William Newman & Sons Ltd. HOSPITAL STREET, BIRMINGHAM, 19.

RADIATOR FASCIA PANELLING IN Weyroc





LOCATION: Modern Office Block, Holborn
ARCHITECTS: Drew & Salisbury
PROBLEM: To replace, by some practicable, solid material, all-over metal grille fascias which were restricting heat output from radiators. The required material had to ensure maximum heating efficiency, *while remaining inert*, and be easily and economically decorated.
WHY WEYROC WAS THE ANSWER: In choosing Weyroc for the job, the Architect was influenced by its stable characteristics which make it *resistant to heat* without shrinking, twisting or warping. Moreover, the quality of the Weyroc surface allowed for simple working and finishing (in this instance, with paint). *Trade price of Weyroc ($\frac{3}{4}$" nominal) is 1/6d. per sq. ft.—subject to the usual standard discounts.*

8′ x 4′ boards of Weyroc were cut to required panel size and hinged to allow access to radiator. Convection efficiency was achieved by leaving air intake and outlet spaces at bottom and top, and by fitting a curved cove behind the radiator.

NOTE FROM THE MANUFACTURERS OF WEYROC

Fascia Panelling is only one of many applications of this constructional 'sheet' material. Weyroc is also being used with great success for partitions, roof-cladding, built-in fitments, bath panels, doors, shelving, etc. We shall be glad to supply Architects with a detailed Weyroc specification sheet and board sample, on request to: Dept. AR.19



THE AIRSCREW COMPANY & JICWOOD LIMITED · WEYBRIDGE · SURREY

W.P.S. 91



Why Fireclay?



A fully illustrated booklet, published in the interest of more and better hygiene and sanitation is available on request.

Inherent in Ceramic **Glazed Fireclay** are qualities that cannot be equalled by other and seemingly cheaper substitutes. Reduced to their simplest dimensions they are its qualities of sturdiness, solidity, durability and its hygienic high-lustre glaze. Consider the average housewife and the demands she makes upon a normal kitchen sink. Watch her use it when preparing vegetables for cooking. See her wash or rinse clothes in it. She'll fill it with boiling water and the very next minute deluge it with cold. She'll empty detergents into it, and generally subject it to the most stringent endurance tests that any sanitary ware can be called upon to withstand. But one material will really stand up to such a test year in and year out, and that material is Ceramic **Glazed Fireclay.** Just one illustration that serves to emphasise some of the reasons for specifying **Fireclay,** not only for domestic use, but in industry, schools, hospitals, hotels, restaurants, public conveniences, theatres, transport terminals, in fact for any project calling for sanitary ware reflecting the highest standards.

fireclay

SANITARY FIRECLAY
TECHNICAL BUREAU
57, GREAT GEORGE ST. LEEDS 1

SPECIFY SANITARY FIRECLAY WARE FOR **PERMANENT** SATISFACTION

ANNOUNCING WEL

The successful launching of the

GARADOR



The NEW aluminium overhead garage door.

Designed to give featherlight operation easy installation and long life

NO SIDEWALL OR ROOF FIXINGS



Write for full details to

WESTLAND ENGINEERS LTD

YEOVIL, SOMERSET. TELEPHONE: YEOVIL 1109.

AMTICO

Here are the practical advantages of the most beautiful flooring in the world

The Range

Amtico offers an almost unlimited range of colours, effects and patterns . . . plain colours, Terrazzo, Marbleized . . . Renaissance simulated marble, Celestial, Stardust Fantasy, all with a striking translucence . . . the glory of Travertine, the freshness of traditional Delft . . . Textura with simulated, dimensioned Mosaic and contemporary surface effects . . . cork and wood grain styles . . . Eldorado metal effects . . . smart, budget-priced Carefree and Vinyl Plastex.

Data

Amtico homogeneous vinyl is *solid* vinyl, colours through thickness. Gauges .080" and ⅛" standard tile sizes 9×9, 12×12 and 36 × 36. Other sizes to special order.

Main Dealers: Cardiff—James Howell & Co. Ltd. Colchester—T. M. Locke Ltd. Newcastle—Harkers Ltd. Nottingham—Hopewells Ltd.

Flooring Contractors who can give further details—

London—North
Veitchi Co. Ltd., N.15
Franchi Wood Mosaic Co. Ltd., N.8
Heaton Tabb, N.W.10.
Haskell Robertson, N.W.5

London—South
The Great Metropolitan Flooring Co. Ltd., S.W.1
Lino Tile Co., Ltd., S.E.5
Cardinal Flooring Co. Ltd., S.E.5
Edward Stuart & Co. Ltd., S.W.1
Ajax Flooring Co., S.W.11
Resilient Tile & Flooring Co. Ltd., S.W.18
Jek Floors, S.E.22

London—West
Everwear Installations Ltd., W.1
Zenith Flooring Co. Ltd., W.C.1
Lammertons Contracts Ltd., W.5
Gerratt Ltd., W.1
Catesbys Ltd., W.1
British Mouldex Ltd., W.1
Dolphin Office Contracts Ltd., W.8
Hesters Ltd., W.1
Marshall & Snellgrove Ltd., W.1

London—East
John Archer & Co. Ltd., E.C.1
N. Pollard & Co. Ltd., E.C.1
A. H. Herbert & Co. Ltd., E.17
Inlaid Rubolin Flooring Ltd., E.8
Val de Travers Ltd., E.C.4

Bedfordshire
Neofloors Ltd., Bedford
Englewood Ltd., Luton

Berkshire
S. H. Ware & Co. Ltd., Reading

Cheshire
F. S. Thompson Ltd., Stockport
Northern Flooring Co., Hyde

Derbyshire
Pitchmastic Asphalt Paving Ltd., Illeston

Devon
A. N. Coles, Plymouth

Durham
S. S. Cooper, Sunderland
Harkers Ltd., Newcastle

Essex
T. M. Locke Ltd., Colchester

Gloucestershire
Baileys Ltd., Bristol
Cavendish House, Cheltenham

Hampshire
Gabriel Floors Ltd., Northam, Southampton
Frys Floors, Southsea, Portsmouth
Robbins Linoleum Co., Bournemouth
Veitchi, Southampton
Graham & Christopher, Bournemouth
Oswald Constructions Co., Bournemouth

Hertfordshire
Tile Decoration, New Barnet
Thompsons (Barnet) Ltd., Barnet

Huntingdonshire
Neofloors Ltd., St. Neots

Kent
Versatile (Folkestone) Ltd., Folkestone
Dunns Ltd., Bromley

Lancashire
Greenbank, Barrow-in-Furness
Terradura Flooring, Manchester
W. R. Molyneux Ltd., Liverpool
Haskell Robertson Ltd., Liverpool
Veitchi & Co., Liverpool
R. W. Brooke & Co., Liverpool, 1
Flooring Northern Ltd., Liverpool
Lees Higginbotham & Son, Oldham

Leicester
R. Scandolo Ltd., Leicester

Middlesex
Horsley Smith & Co. Ltd., Hayes

Norfolk
Floorings by March, Norwich

Northamptonshire
S. S. Flooring Services, Peterborough
Netherton Ltd., Peterborough
Warden Flooring Co., Kettering
British Mouldex, Wellingborough

Northumberland
Harkers Ltd., Newcastle

Nottinghamshire
Hopewells Ltd., Nottingham

Oxfordshire
S. H. Ware & Co. Ltd., Oxford
Minoli & Co. Ltd., Oxford
Stephenson & Co., Oxford

Somerset
C. E. Carpenter & Son Ltd., Bridgewater

Staffordshire
Hill & Long, West Bromwich
George Cookson & Co., Stoke-on-Trent

Suffolk
S. S. Flooring Services, Bury St. Edmunds

Surrey
C. & I. Supplies Ltd., Weybridge
Richards, West Croydon
G. C. Constructional Flooring Co. Ltd., Richmond
Frys Floors, Croydon
All Floors Ltd., Croydon
Gabriel Floors Ltd., Guildford
Humberson, Woking
Decorative Floors Ltd., Reigate

Sussex
Horsham Flooring Co., Horsham
Attew, Hove, 3
Frys Floors, Brighton
Maxwells (Hove) Ltd., Brighton

Warwickshire
The Coventry Tile Co., Coventry
Sam Robbins Ltd., Rugby

Yorkshire
Letco Floors & Tiles Ltd., Sheffield, 3
Joseph Hargreaves Ltd., York

WALES

Denbighshire
North Wales Floorings, Colwyn Bay

Glamorganshire
James Howell & Co. Ltd., Cardiff

CHANNEL ISLANDS
J. W. Huelin Ltd., St. Helier, Jersey

SCOTLAND
V. G. (Dundee) Ltd., Dundee
Thomas Love & Sons Perth
Treron, Glasgow
Thomas Justice & Son, Dundee
Macdougall & Son, Glasgow
A. McCullock & Co. Ltd., Glasgow, C.4

Also Head Offices and branches of:
Durastic Ltd. Korkoid Decorative Floors Limmer & Trinidad Lake Asphalt Co. Ltd. J. A Hewetson & Co. Ltd. Semtex Ltd.

Please ask for full list of contractors from—

HUMASCO LIMITED, 23 OLD BAILEY, LONDON, E.C.4
CITy 1056 **SEE FACING PAGE**

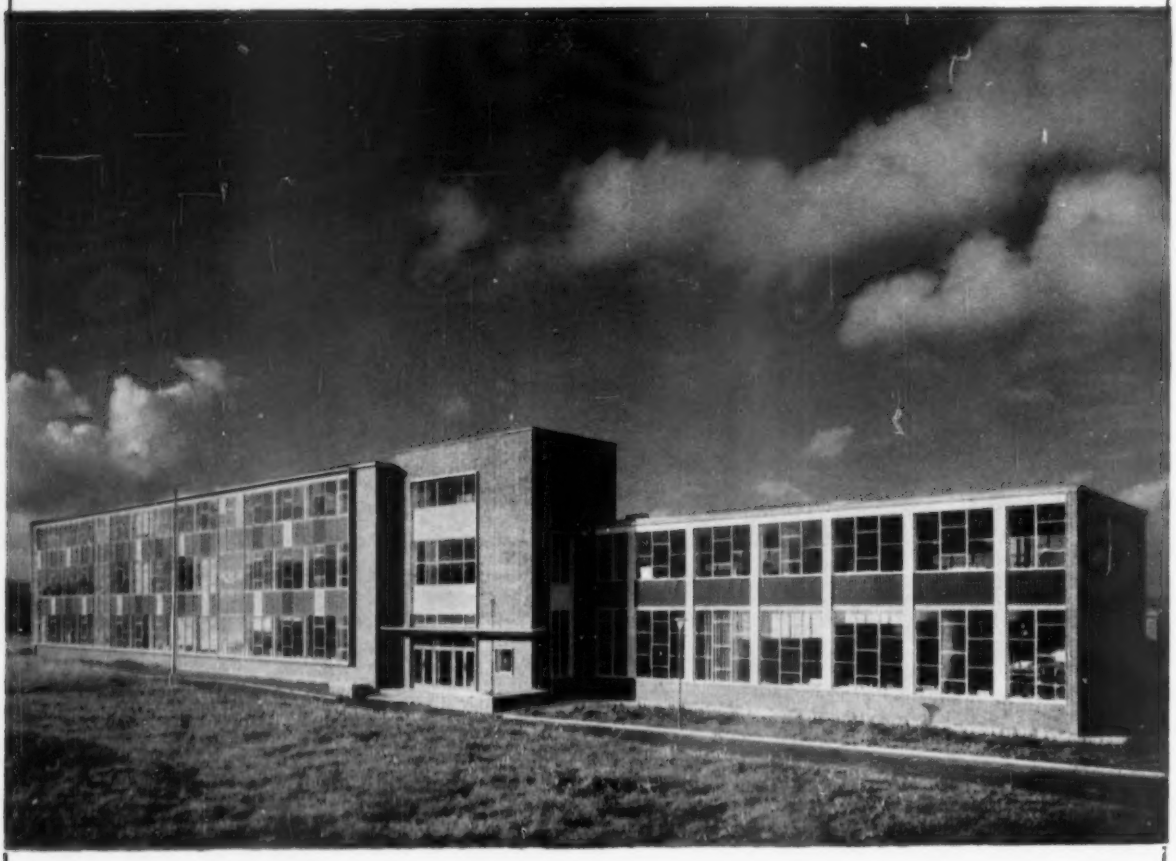


Check-mated with check... taste and tone superb! Pure vinyl — choosing **AMTICO** is a sure move to winning floormanship. Whatever the finish — **AMTICO** lasts as well as it looks! Resilient, radiant, many coloured... as versatile as the Queen, as necessary as the King... **AMTICO** is the most beautiful flooring in the world!

SEE FACING PAGE

HUMASCO LTD., VINYL COVERINGS, 23 OLD BAILEY, E.C.4

Jonwindows | *Curtain Walling*
Metal Windows



CYNTWELL SCHOOL, ELY, CARDIFF City Architect: John Dryburgh, A.R.I.B.A., A.R.I.C.S., A.M.T.P.I.



In this interesting example of contrasting window construction, the three-storey classroom block is constructed of $1\frac{3}{8}$" galvanized steel sash with medium universal inserted ventilators and vitreous enamelled insulated steel infil panels to a colour pattern. Supported by cruciform ribs on a 3′ 4″ lateral modular basis 32′ high, an effective yet economical curtain walling treatment is achieved.

In contrast, the two-storey block consists of two ranges of galvanized medium universal windows with pressed steel vertically fluted insulated panelling contained within continuous pressings at the head and cill of the floor band. Each bay is divided and supported by continuous pressed steel 22′ high column covers with concealed fixings.

JOHN WILLIAMS OF CARDIFF LTD
METAL WINDOW DIVISION
CURRAN ROAD, CARDIFF · Tel: Cardiff 37131 · Telex: 49303

glass for depth of colour in cladding



PILKINGTONS' GLASS CLADDING MATERIALS INCLUDE "ARMOURCLAD" AND "MUROGLASS"

For full information write to the Technical Sales and Service Department, Pilkington Brothers Limited, St. Helens, Lancashire. Tel: St. Helens 4001.
LONDON OFFICE: Selwyn House Cleveland Row, St. James's, S.W.1. Tel: WHitehall 5672-6.

Supplies are available through the usual trade channels. "ARMOURCLAD" and "MUROGLASS" are registered trade marks of Pilkington Brothers Limited.

ASHBURTON CHEMICAL WORKS LIMITED

choose Ceramic Tiles

. . . for this arresting mural decoration, which
dominates the west end of the new Administrative
Building at Trafford Park, Manchester.



Architects: Scherrer & Hicks, F/F.R.I.B.A., London and Manchester.
Designer: J. L. Mayo, Esq., A.R.I.B.A., M.S.I.A., London.
Main Contractors: J. Gerrard & Sons Ltd., Swinton.
Tile Fixing by: Hulme & Potts Ltd., Manchester.

Visit the Council's display of ceramic tiles at the Building Centre, Store St., Tottenham Court Rd., W.C.1.

British Ceramic TILES

British Ceramic Tile Council · Federation House · Stoke-on-Trent



For design,

finish ...

choice of sizes

and colours,

Architects need

look no further

than Bilston, the

Bath Specialists

ATLANTA
MAGNA
CRESTA
MARINA
MERMAID
BERMUDA
PRINCESS

BILSTON

Illustrated literature sent on request · Bilston Foundries *Ltd*, Bilston, Staffs



We're your Man Friday

...WHEN IT COMES TO FINDING THE RIGHT **CONTACT BONDING ADHESIVE**

How much do you expect of an all-purpose contact adhesive? Apart from its effectiveness in fixing laminated sheeting and hardboard, etc., don't you want it to be used on the site without complicated cramping? Don't you want it to provide permanent adhesion once the two surfaces are joined? To be used anywhere, in all types of building, for kitchen fitments, shop counters, bathroom units, and built-in furniture? Of course you do. And that's why, bearing you in mind, 'Bostik' Research has come up with 'Bostik' Contact Bonding Adhesive.

One last word about 'Bostik' Research: If you've any problem to do with sealing or bonding building materials, don't hesitate to get in touch with us. It's our job. We may have solved your problem already. And if we haven't, we'll get down to it right away.

Write to 'Bostik' Building Advisory Department, B.B. Chemical Co. Ltd., Leicester.



ALWAYS ONE USEFUL STEP AHEAD **Bostik**

The word 'BOSTIK' is a trademark registered in the United Kingdom and many other countries
Manufactured by B.B. Chemical Co. Ltd. (The 'Bostik' People), Leicester, England

DAWNAYS LIMITED STEELWORKS ROAD BATTERSEA SW11 TEL: BAT 2525
and at Welwyn Garden City Swansea Cardiff Norwich & Hull. Offices at Southampton Romford & Victoria Street SW1

dma



DAWNAYS

specialists in the design
fabrication & erection of
STEELWORK

£3,000 MILLION

BANKED ON HARDWOOD FLOORS





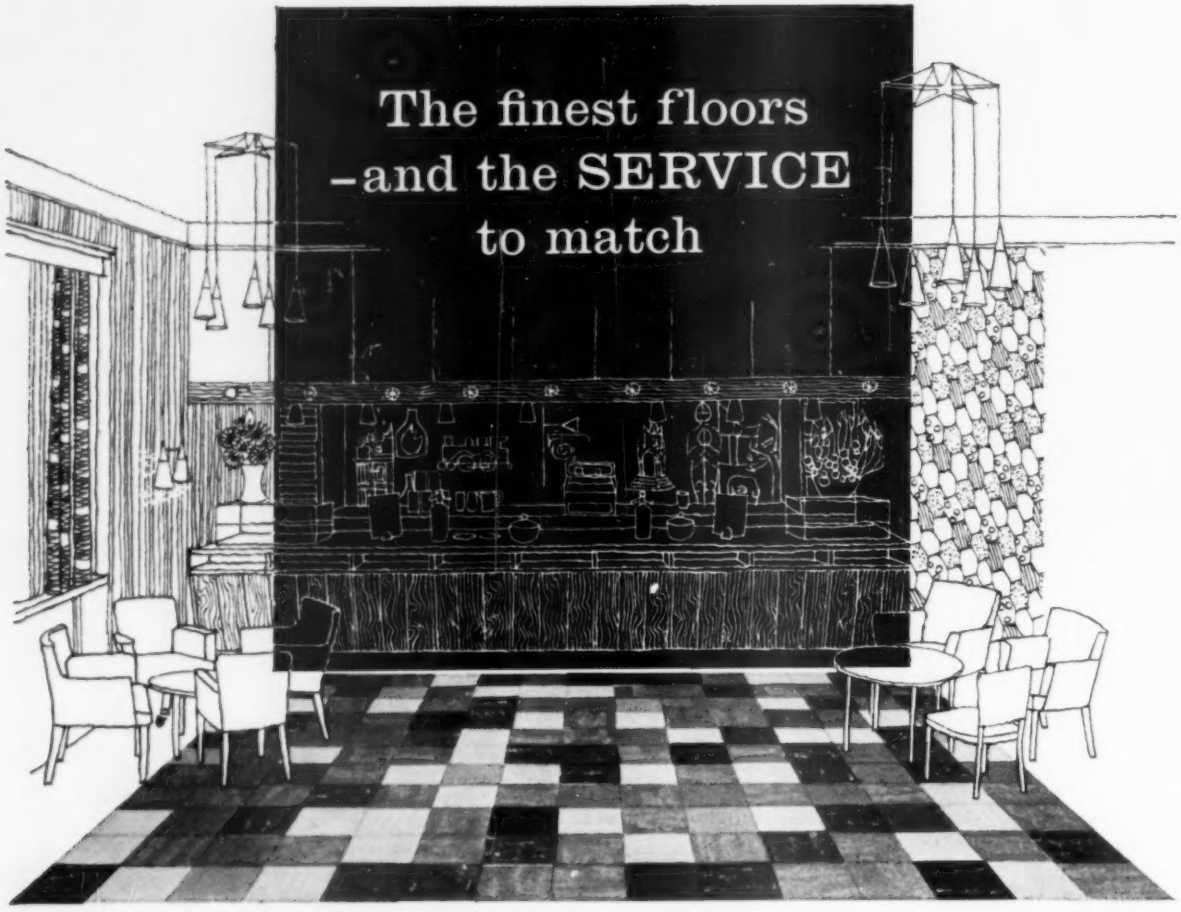
In the biggest banks, the smallest banks, the oldest banks, and today's most modern banks . . . Warm, quiet, comfortable surfaces to walk on, stand on, work on . . . They bank on hardwood floors, unmatched for wear. For a floor of enduring beauty, incomparable character, practical qualities of easy maintenance and permanence, the first choice and only choice is a genuine hardwood floor.

TAKE STEPS TO FIND OUT MORE ABOUT HARDWOOD FLOORS THEY'RE CHEAPER IN THE LONG RUN

The Hardwood Flooring Manufacturers' Association or the Timber Development Association will be glad to supply you with design data and full information on the characteristics of the many hardwood species now available for floors to meet all conditions of service.
Write to The Hardwood Flooring Manufacturers' Association, 68/70 Queen Street, London, EC4

TGA TD173

The finest floors –and the SERVICE to match





"Vinylex tiles at the Shires Restaurant St. Pancras Station".

Semtex, manufacturers of a wide range of flooring materials, including Semastic Decorative Tiles, Semflex Tiles, Vinylex Tiles, Dunlop Rubber Flooring and Vertilex Decorative Wall Tiles, will employ their vast resources in taking welcome responsibility for your entire flooring operation. Twenty contracting branches throughout the country will advise readily on all flooring and pre-treatment problems and offer a highly-skilled laying service, providing, in addition, comprehensive facilities for design.

IMAGINATIVE MODERN FLOORS

Semtex Ltd

SEMTEX LTD · SEMTEX HOUSE · 19/20 BERNERS STREET · LONDON W.1 · TEL: LANGHAM 0401

CH/60/SE/C1



how is a design born?

There are no tools or materials for creating a design. You can't make an idea with a machine or turn out original designs on a production line. The only basics are a man's imagination, experience—and a certain indefinable something. And of course good designs are very hard to come by.

But we believe all the everflex vinyl coated fabrics designs are good. Just take a look at 'MAZE' and 'CAPRICE' illustrated here. They are outstanding. But *how* were these designs born? Only Edward Pond who designed them can tell you.

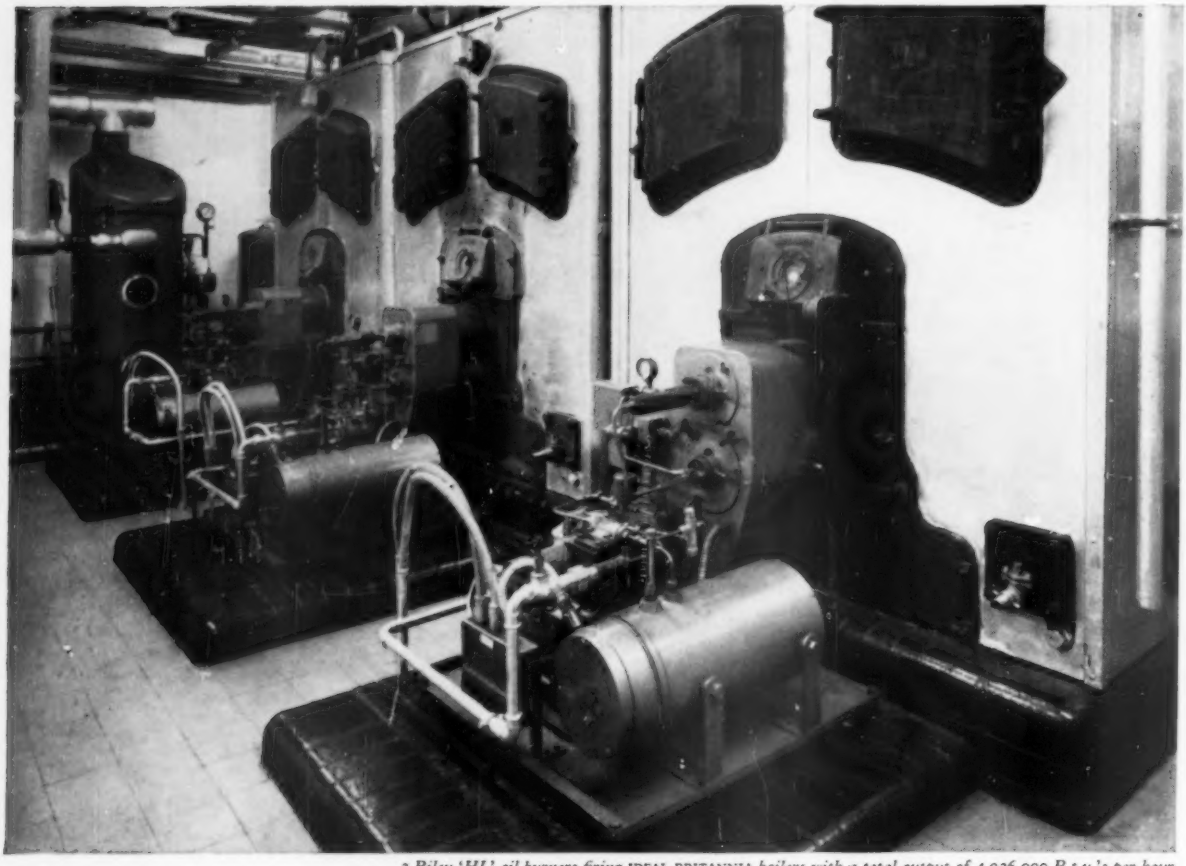
Everflex is widely used for upholstery, wall covering, case covering, interior decoration, on domestic appliances and a million other things. Write now for samples and details.

everflex VINYL COATED FABRICS

Bernard Wardle (everflex) Ltd., Caernarvon, North Wales. Caernarvon 3243

26 Berners Street, London W.1. LANgham 8451

High-combustion efficiency with
RILEY OIL BURNERS



3 Riley 'HL' oil burners firing IDEAL BRITANNIA *boilers with a total output of 4,926,000 B.t.u.'s per hour serving both heating and domestic hot water services at the Bonnington Hotel, London*

Designed for clean, easy installation, Riley (IC) Oil Burners are consistent in their high-combustion efficiency. They are factory-set to give high CO_2, dispensing with the necessity of site adjustment.

TYPE 'HL' BURNER HIGH/LOW/OFF OPERATION	*for capacities above 10 gallons per hour using 220 secs and 950 secs oil.*
TYPE 'F' BURNER ON/OFF OPERATION	*available in capacities from 30 lb to 150 lb using 220 secs oil. (950 secs in larger sizes).*
TYPE 'G' BURNER ON/OFF OPERATION	*Similar to type F Burner but uses 40 secs oil.*
TYPE 'M' BURNER for HORIZONTAL SHELL BOILERS	*developed to give clean, narrow flame without impingement. Spill-return atomiser, output range 3 to 1 on modulating control.*

For further details please write to:—

RILEY (IC) PRODUCTS LIMITED

One of the International Combustion Group of Companies

NINETEEN WOBURN PLACE · LONDON WC1 · TELEPHONE: TERMINUS 2622

Full comprehensive after-sales service is available from service depots at

BIRMINGHAM · BRISTOL · GLASGOW · LEEDS · MANCHESTER · MELTON MOWBRAY AND NEWCASTLE-ON-TYNE

TGA 808

PLIMBER

BRITAIN'S MOST *VERSATILE*

WOOD CHIPBOARD

The *preferred* sheet material for

partitioning and wall lining
domestic and industrial flooring
roof decking and lining
shelves, doors, work surfaces
counter tops and risers

PLIMBER

maximum size 16 ft. x 4 ft.

standard size 8 ft. x 4 ft.

thicknesses $\frac{1}{2}$ in. & $\frac{3}{4}$ in.

Plain Plimber and Wood Veneered Plimber

The maximum size for Wood Veneered Plimber is 8 ft. x 4 ft.

Plimber is manufactured in accordance with the requirements of British Standards 2604: 1955

For technical information and prices
ask your Timber or Builders' Merchant,

or write to

BRITISH PLIMBER LIMITED

RAINHAM, ESSEX **RAINHAM 5262**

Architects going up in the world . . .



. . SPECIFY LUXOL

Polyurethane Lacquer

ON ALL FLOORS

Upstairs and downstairs and everywhere there are people, Luxol Polyurethane Lacquer is the supreme floor coating that takes the hardest of wear yet keeps a continually cheerful lustre. Luxol Polyurethane Lacquer gives a beautiful glossy build that coats and protects at the same time. Feet never touch the actual floor surface because Luxol Polyurethane Lacquer shields it from wear and dirt. Instead, you get an aristocratic finish that stays lustrous for months without polishing. And its non-slip surface (ideal for dining room or dance floor) makes it safe for young and old alike; will not chip, mark or flake. Luxol Polyurethane Lacquer is a practical luxury for all suitable floor surfaces.

AND FOR CLADDING

Luxol Polyurethane Lacquer gives a handsome protective finish to exterior cladding that withstands the severest of outdoor conditions.

Luxol Polyurethane Lacquer is a two pack product that is easily applied on site. Whether brushed or sprayed on it can be overcoated in 4 - 6 hours and dries to a rich deep build that neither cracks, chips nor flakes. Has exceptionally low flame spread.

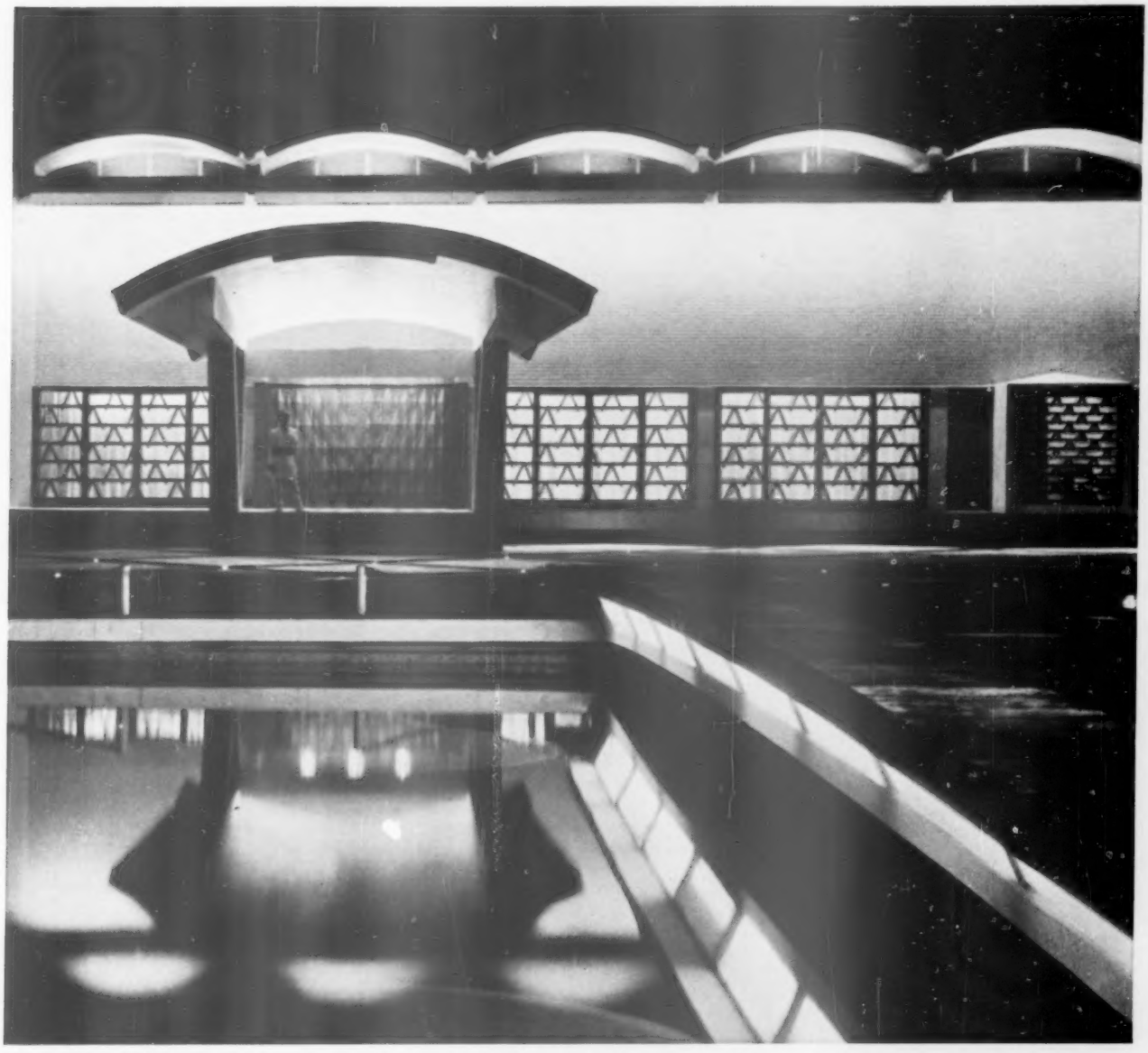
For full details of Luxol Polyurethane Lacquer write for Technical Information Leaflet 11/28.



BRITISH PAINTS LIMITED

PORTLAND ROAD, NEWCASTLE UPON TYNE, 2.

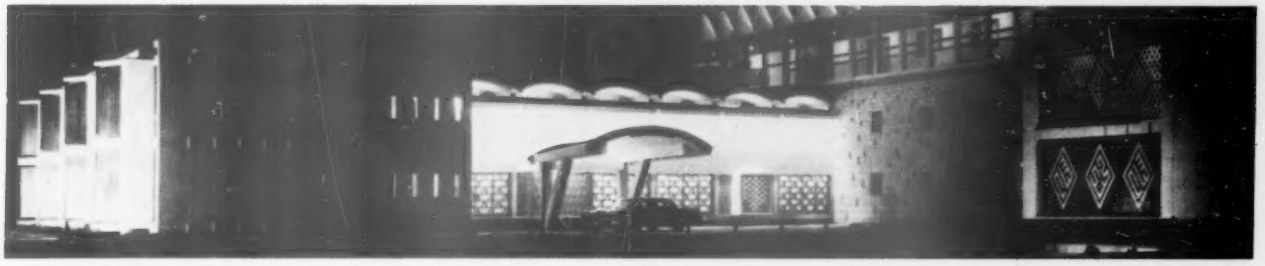
London · Liverpool · Aberdeen · Belfast · Birmingham · Bristol · Cardiff · Glasgow · Edinburgh Manchester · Middlesbrough · Nottingham · Sheffield · Southampton and all principal towns. D119



From the lighting equipment of the world, Atlas Lighting was chosen to create an atmosphere of brilliance, originality and palatial splendour, for this magnificent 20th Century palace of the East.

A PALACE IN THE PERSIAN GULF

Architects: Farmer and Dark

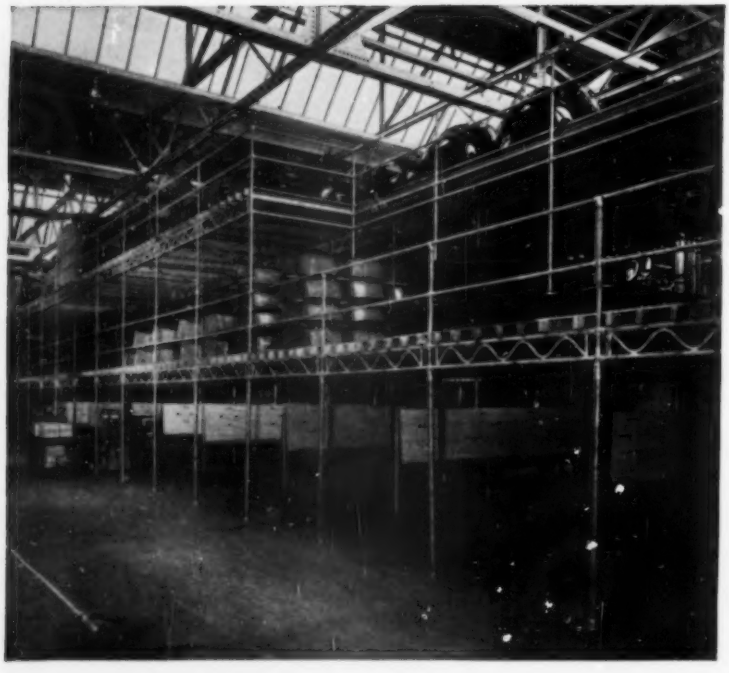


atlas ATLAS LIGHTING LIMITED · THORN HOUSE · UPPER ST. MARTIN'S LANE · LONDON · WC2

DTV

any ambition to conquer space Mr. Architect ?





Space-savers please telephone for a Kee Klamp engineer—freely available to discuss your problem.

If you have, Kee Klamps are just the people to take into partnership. For any given cubic area this unique system of construction can provide the utmost use, down to the last cubic inch! Of course you will only be asked to build half the factories, but then, think of the time you'll have spare to concentrate on the garden.

KEE KLAMP
(Regd. Trade-Mark)

STORAGE RACKING

GEO. H. GASCOIGNE CO. LTD.
579 GASCOIGNE HOUSE, READING, BERKS.
Telephone: READING 54417 (3 lines)



Shanks

· BATHROOM FITTINGS ·

SHANKS & CO., LTD., TUBAL WORKS, BARRHEAD, SCOTLAND

'PHORPRES' HOLLOW CLAY BLOCKS —AND THE PRE-CAST HOLLOW TILE BEAM FLOOR

THE ADVANTAGES

STRENGTH. The Hollow Tile Beam Floor possesses great strength combined with light self-weight. The good bonding between the concrete and the grooved blocks ensures that the stresses from concentrated loads are well spread over the structure.

ADAPTABILITY. The Pre-Cast Hollow Tile Beam Floor can be designed for wide spans without intermediate supports. Flat roofs can be constructed in the same manner as floors and the method is particularly suited to the construction of cantilevered balconies.

SERVICES. Conduit for services is buried in the structural concrete screed.

FIRE RESISTANCE. The Hollow Tile Beam Floor using 'Phorpres' Hollow Clay Units gives excellent resistance against fire.

The Pre-cast Hollow Tile Beam Floor

The Bondura system uses special 'Phorpres' Clay Blocks built into units of specified length and a standard width of 1' 4" on site. The units are built as walls, each 'wall' comprising three units with sand joints between them.



After a maturing period of fourteen days the units are taken from stack and placed on a trolley for convenient handling. The units are then hoisted with special hoisting gear to the required level.





The unit remains on the trolley until placed in position when the intermediate joints are filled with mortar.



After the services have been placed on the floor a structural concrete screed is laid.



We wish to thank Brick Flooring Constructions Limited, for their co-operation in supplying the illustrations for this advertisement.
Brick Flooring Constructions Ltd.,
1 Surbiton Crescent,
Kingston-upon-Thames,
Surrey.

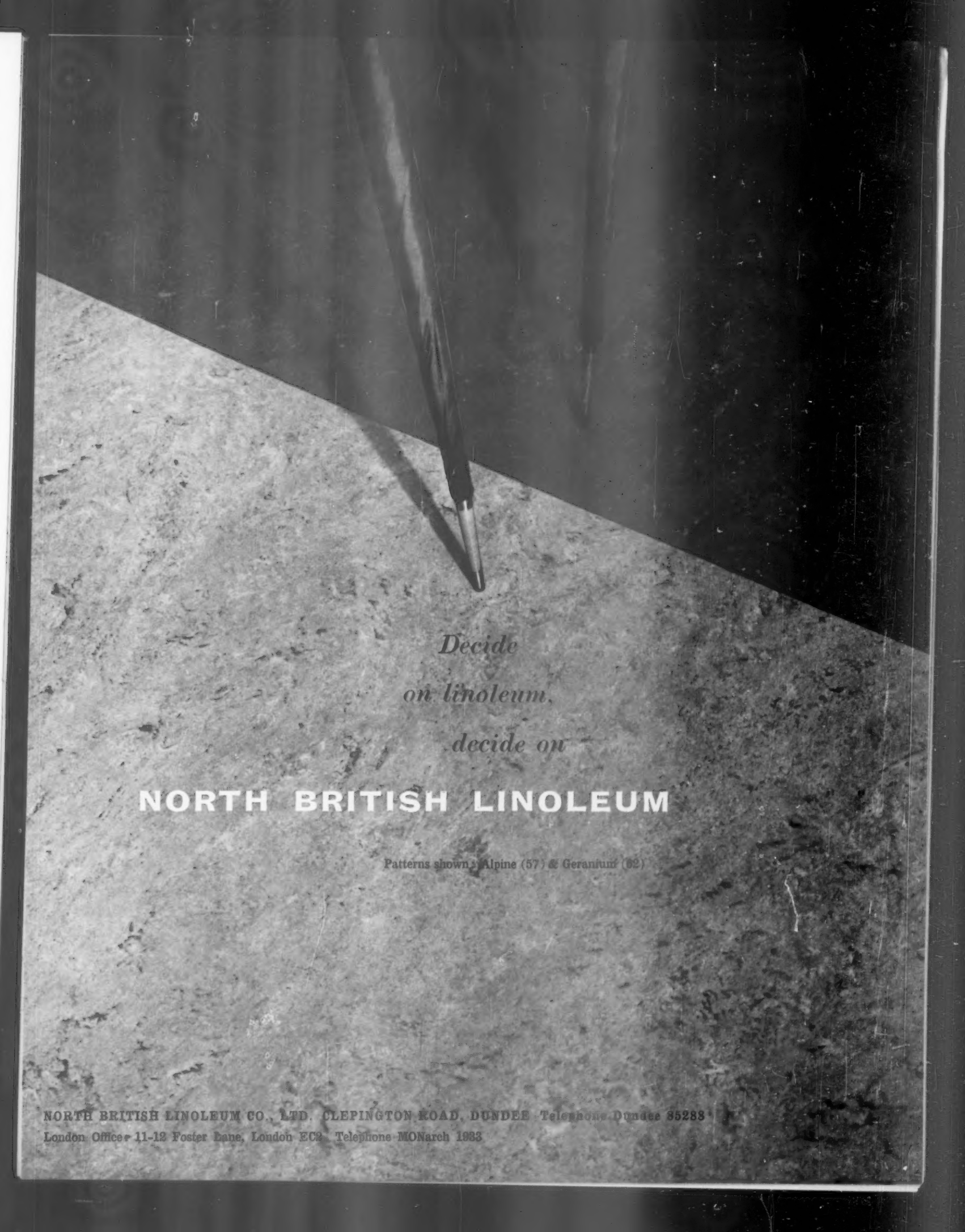
A HOLLOW TILE BEAM FLOOR IS A QUALITY FLOOR

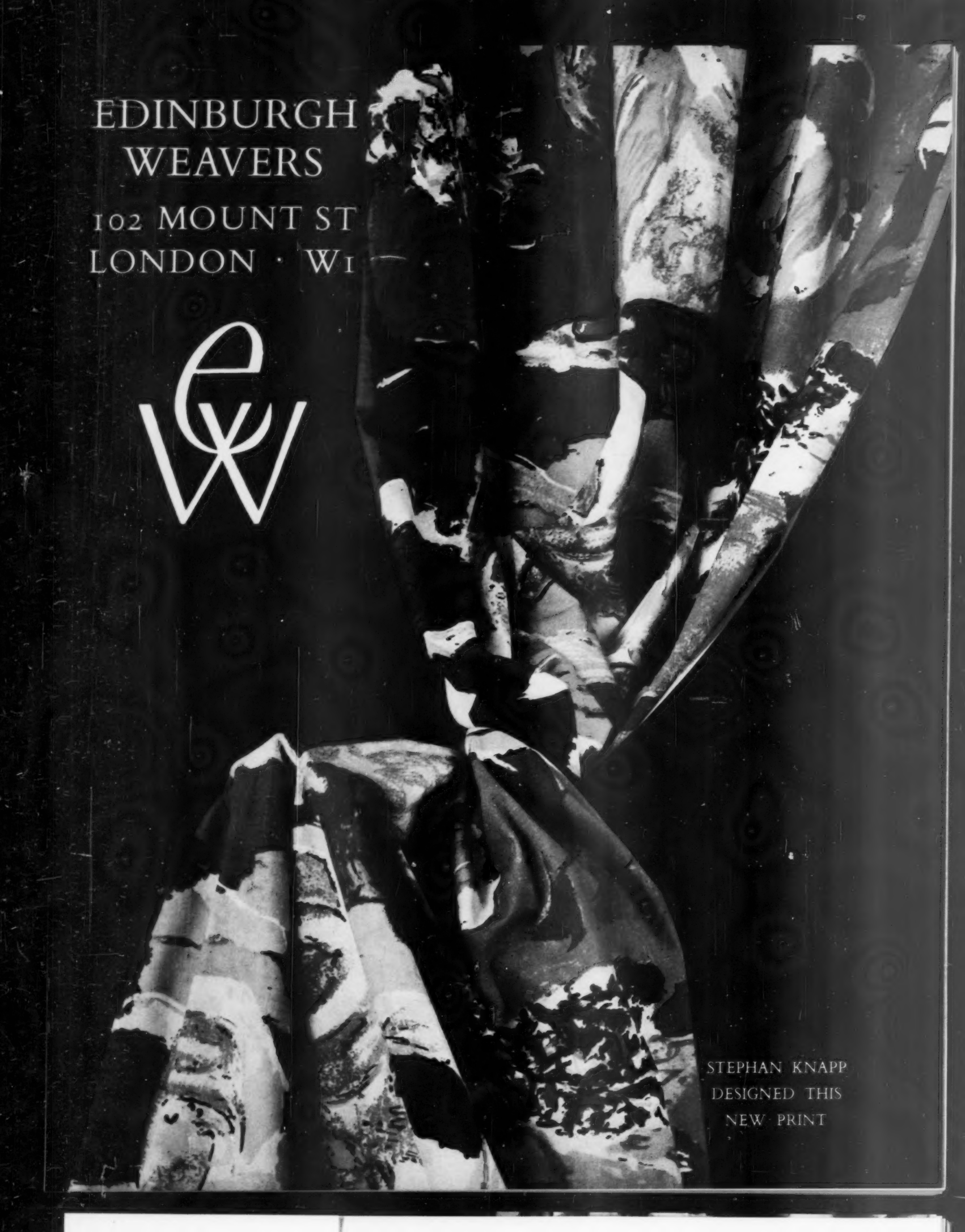
LONDON BRICK COMPANY LIMITED — in the service of the building industry

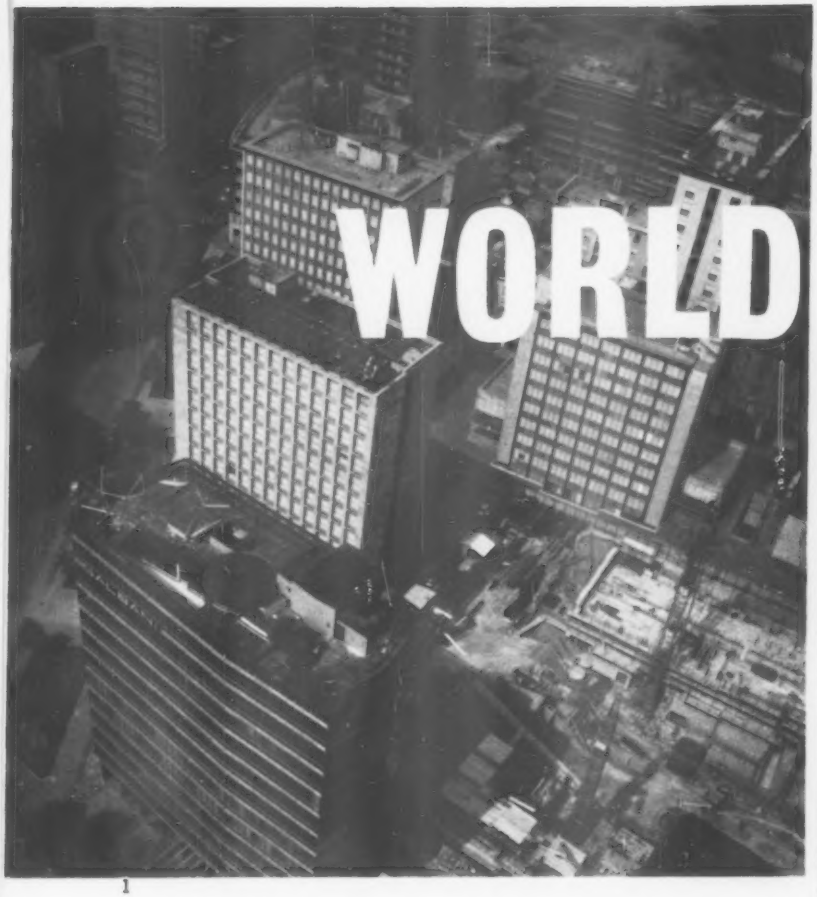
PHORPRES

Head Office: Africa House, Kingsway, London, W.C.2. Telephone: HOLborn 8282.
Midland District Office: Prudential Buildings, St. Philip's Place, Birmingham 3. Telephone: Central 4141
South-Western District Office 11 Orchard Street, Bristol 1. Telephone: Bristol 23004/5.
Northern District Office. St. Paul's House, 20-22 St. Paul's Street, Leeds. Telephone: Leeds 20771.

BY APPOINTMENT
TO HER MAJESTY QUEEN ELIZABETH II
BRICK MAKERS


Decide
on linoleum,
decide on
NORTH BRITISH LINOLEUM
Patterns shown: Alpine (57) & Geranium (82)
NORTH BRITISH LINOLEUM CO., LTD. CLEPINGTON ROAD, DUNDEE Telephone Dundee 85288
London Office: 11-12 Foster Lane, London EC2. Telephone MONarch 1933


EDINBURGH
WEAVERS
102 MOUNT ST
LONDON · W1
STEPHAN KNAPP
DESIGNED THIS
NEW PRINT



1

machine aesthetic

GALBANI: MILAN

The Pirelli Building (of which a critical study will appear in the AR early next year) has been described as the most conscientiously modern in Milan. But when the Pirelli-visitor looks down from its high attic into the bustling Quartiere Direzionale, 1, immediately behind it, he sees at least one building that can claim to be more slick, more smooth, more Ivy-League—the polygonal Galbani building, bottom left. Designed by Ponti's one-time partner, the redoubtable Soncini, its curtain walling in satin-finish aluminium and tinted, glare-resisting glass, 2, gives it a smartly sombre glitter that recovers, in a suitable up-to-date way, the mechanistic, impersonal slickness that was the aim of so much architecture (Eric Mendelsohn's department stores, for instance) in the late Twenties. But there is nothing period about either the conception or the details of Galbani; it wears its name like the logotype on a refrigerator or office machine, 3, rather than the inscription on a monument, and—as one visitor to the Triennale observed—you look for a slot to put a *gettone* in and make it work.

2



3



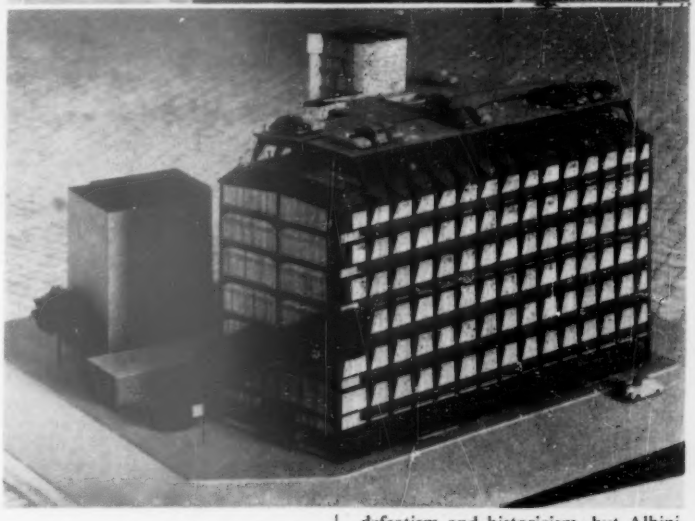
machine aesthetic

RINASCENTE: ROME

Visitors to the Triennale will also have observed an almost overpowering full-size mock-up of some welded steel detailing, 4, from a very different machine-aesthetic building, Franco Albini's project for a branch of the Rinascente store on the via Safaria in Rome. It might not be thought that anything so aggressively mechanistic could be an exemplar of Italian defeatism and historicism, but Albini (plus some unfortunate circumstances beyond his control) have made it so. This is a detail from the second version of the project; the first, seen in 5, was a most remarkable invention, the plastic image of a selling factory, with a structure of exposed portal frames, rooftop car-parking served by a lift tower, and an external staircase, 6,



4

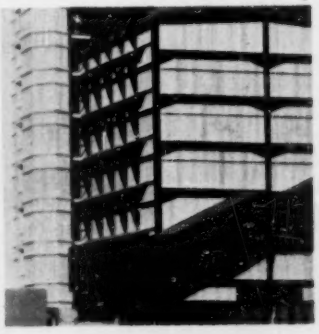


5

↑ RINASCENTE

GALBANI ↓

6



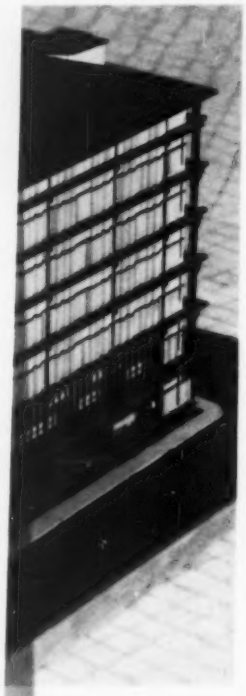
ACKNOWLEDGMENTS

WORLD, pages 389–392: 1–3, Banham Arphot; 4, 5, 7, Publifoto Milano; 6, *Casabella*; 8–11, *Deutsche Bauzeitung*; 12–16, *Byggnads Ingenjören*; 17–20, *Arkkitehti Arkiteckten*; 21–24, *Bauwelt*; 25–27, *Arts & Architecture*; 28–34, *Architectural Record*. VIEWS AND REVIEW, pages 393–395: 1, Warburg Institute; 2, National Buildings Record; 3, 4, The Zoological Society of London; 6, J. M. Cryle; 7, Anthony Panting. FRONTISPIECE, page 396: British Council. CHURCH AT BOW COMMON, LONDON, pages 400–405: Galwey Arphot. ROADSTYLE ON THE MOTORWAY, pages 406–419: Frontispiece, Galwey Arphot; 6, Toomey Arphot; 21, Sam Lambert. LA VALLE DEI TRULLI, pages 420–423: Mimmo Castellano. PALACE IN THE PERSIAN GULF, pages 424–428: Galwey Arphot. INTERIOR DESIGN, pages 432–435: 1, 3, 4, Henk Snoek; 5–8, Alfred Cracknell; 9, Galwey Arphot. CURRENT ARCHITECTURE, pages 440–443: 1, 3, Sam Lambert; 2, Toomey Arphot; 5, Norman Brown & Co.; 6, Angus Photos; 7, John Maltby. MISCELLANY, pages 444–451: Exhibitions, 1, 2, 4, 8, Corry Bevington; 3, Marlborough Fine Art Ltd.; 5, R. B. Fleming & Co. Ltd.; 6, James Mortimer. Obituary, 2, Cedric Barker; 4–10, 12, Toomey Arphot; 11, LTE. Townscape, 1–7, DRU. THE INDUSTRY, pages 454–460: 2, Freddie Squires Ltd.; 3, Nevin D. Hurst (Advtg.) Ltd.

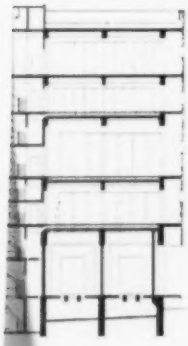


This month's cover was designed by Philip Thompson.

with a distinctly Boulton-
ir, like an illustration from
chapters of *Space, Time and*
e—a nonsensical situation
is, in one way, a more
building: the corrugations
lowless wall contain the air-
g ducts.



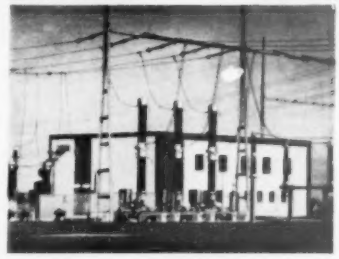
at, and unmistakably Ger-
Hochstrasse electricity sub-
Saarbrucken, 8, conceals
its regular exterior suggests.
ect, Peter Paul Seeberger, city
f Saarbrucken, has located
avy plant at ground level
he pilotis of the concrete
struction. Above this, the
asbestos exterior, with its
orey-heights to the window-
ters, not four *equal* floors of
, but two double-deck
installations, each with
orey-heights, as the section
though purists would doubt-
to this 'dishonesty,' it causes



no functional difficulties, since the only really awkward window height occurs on the lower, cable-deck of the upper installation, where fenestration is less critical since this level is less inhabited. And again, the visual improvement that results from thus regularizing the outward face of a building whose section is apt to relapse into half-storeys, is formidable. The opposite solution may work for other types of building, p. 392, but for power stations the result, it could well be argued, is far better architecture than another, similar installation illustrated in the same number of *Deutsche Bauzeitung* (9, 1960) outside Ulm, which has a rather grandiose control room, 10 (in the wooden space-ship style), but fails, for all the architect Hanns Klatz's efforts to make a coherent image out of its buildings and open-air plant, 11.



10



11



12

PROGRESS ON THE HELICOID

The shopping centre to end shopping centres, the *Helicoide de la Roca Tarpeia*, Caracas, which was discussed in AR October, 1957, as something of a visionary project, deserves our apologies—it is being built, and is well advanced, 12, though some gaps in the construction remain to be closed. The Swedish magazine *Byggnads Ingenjoren* (8, 1960) has recently published extensive progress shots of this fantastic and highly Venezuelan structure, showing, among other things, sections already in use, 13; approach bridges carried on asymmetrical half-portals, 14; stupendous views from its upper decks, 15, which in their unfinished condition suggest rather forcibly the kind of equally stupendous ruins that

13



14





15



These ceilings can BREATHE

Overhead services are completely obscured, yet there is adequate circulation of warm air *through* the panels to maintain efficient heating.

For panelling suspended ceilings, perforated metal also offers other distinct advantages. It is incombustible; maintenance is negligible; for access to services, panels may be removed and replaced without difficulty or damage; panel size and perforation pattern can be varied to suit individual requirements. Perforated metal is very versatile, and Harveys will help you to make the best possible use of it. Enquiries are invited.



Liverpool Corn Exchange *Architects: Harold E. Davies & Son,* A.R.I.B.A.
Contractors: Tysons (Contractors) Ltd.

HARVEY PERFORATED METAL

G. A. HARVEY & CO (LONDON) LTD., Woolwich Road, London, S.E.7. Telephone: GREenwich 3232 (22 lines)

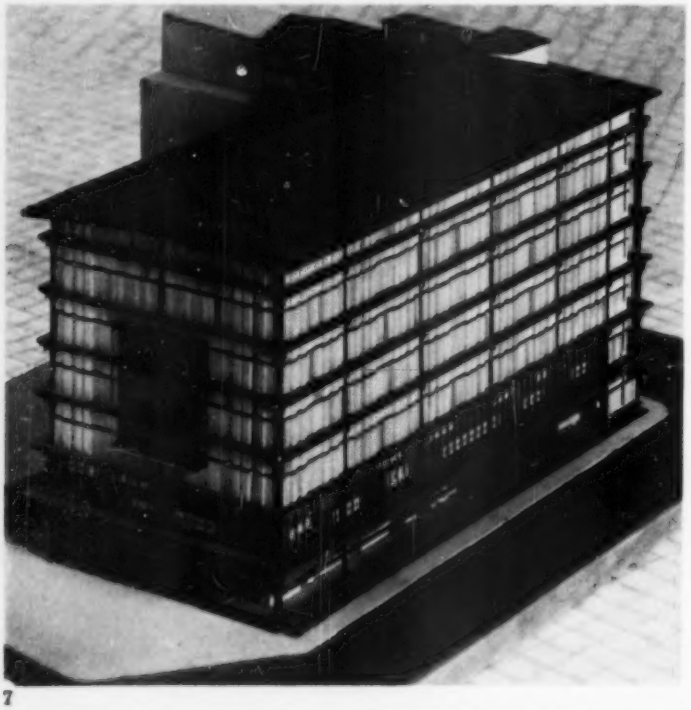
Other Harvey Products: DECORATIVE SCREENING IN PATENT METALACE AND RIBBON WIREWORK • COMPLETE INSTALLATIONS OF STEEL OFFICE FURNITURE AND PARTITIONING • STEEL CLOTHES LOCKERS AND CUPBOARDS • VENTILATORS AND DUCTING • ZINC AND COPPER ROOFING

P10

Rinascente

that put it in a class with the exposed-circulation architecture of Lou Kahn's 'topological' projects.

The second version is still the image of a factory, but a primitive, historical factory, 7, with a distinctly Boulton-and-Watt air, like an illustration from the middle chapters of *Space, Time and Architecture*—a nonsensical situation since this is, in one way, a more advanced building: the corrugations of the windowless wall contain the air-conditioning ducts.

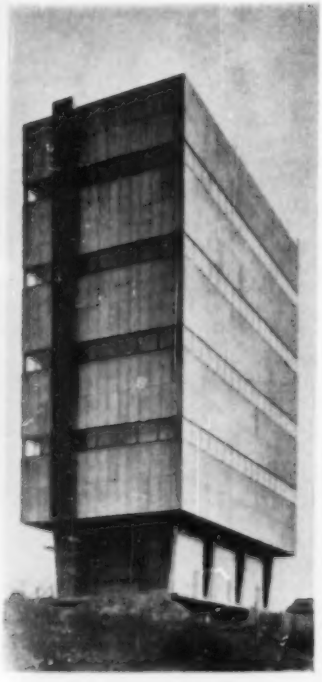


7

GERMAN SUBSTATIONS

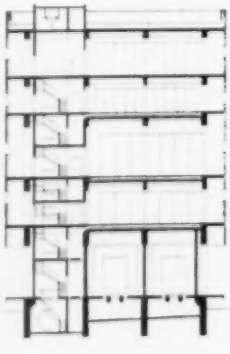
Saarbrucken & Ulm

8



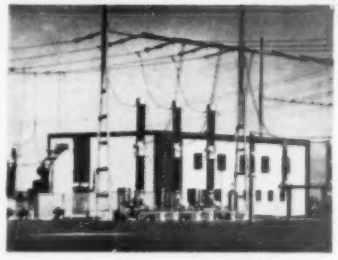
Very neat, and unmistakably German, the Hochstrasse electricity substation at Saarbrucken, 8, conceals more than its regular exterior suggests. The architect, Peter Paul Seeberger, city architect of Saarbrucken, has located all the heavy plant at ground level between the pilotis of the concrete frame construction. Above this, the corrugated asbestos exterior, with its regular storey-heights to the window-strips, shelters, not four *equal* floors of equipment, but two double-deck switching installations, each with unequal storey-heights, as the section shows, 9. Though purists would doubtless object to this 'dishonesty,' it causes no functional difficulties, since the only really awkward window height occurs on the lower, cable-deck of the upper installation, where fenestration is less critical since this level is less inhabited. And again, the visual improvement that results from thus regularizing the outward face of a building whose section is apt to relapse into half-storeys, is formidable. The opposite solution may work for other types of building, p. 392, but for power stations the result, it could well be argued, is far better architecture than another, similar installation illustrated in the same number of *Deutsche Bauzeitung* (9, 1960) outside Ulm, which has a rather grandiose control room, 10 (in the wooden space-ship style), but fails, for all the architect Hanns Klatz's efforts to make a coherent image out of its buildings and open-air plant, 11.

9





10



11



12

PROGRESS ON THE HELICOID

The shopping centre to end shopping centres, the *Helicoide de la Roca Tarpeia*, Caracas, which was discussed in AR October, 1957, as something of a visionary project, deserves our apologies—it is being built, and is well advanced, 12, though some gaps in the construction remain to be closed. The Swedish magazine *Byggnads Ingenjoren* (8, 1960) has recently published extensive progress shots of this fantastic and highly Venezuelan structure, showing, among other things, sections already in use, 13; approach bridges carried on asymmetrical half-portals, 14; stupendous views from its upper decks, 15, which in their unfinished condition suggest rather forcibly the kind of equally stupendous ruins that

13



14





15



These ceilings can BREATHE

Overhead services are completely obscured, yet there is adequate circulation of warm air *through* the panels to maintain efficient heating.

For panelling suspended ceilings, perforated metal also offers other distinct advantages. It is incombustible; maintenance is negligible; for access to services, panels may be removed and replaced without difficulty or damage; panel size and perforation pattern can be varied to suit individual requirements. Perforated metal is very versatile, and Harveys will help you to make the best possible use of it. Enquiries are invited.



Liverpool Corn Exchange *Architects: Harold E. Davies & Son,* A.R.I.B.A.
Contractors: Tysons (Contractors) Ltd.

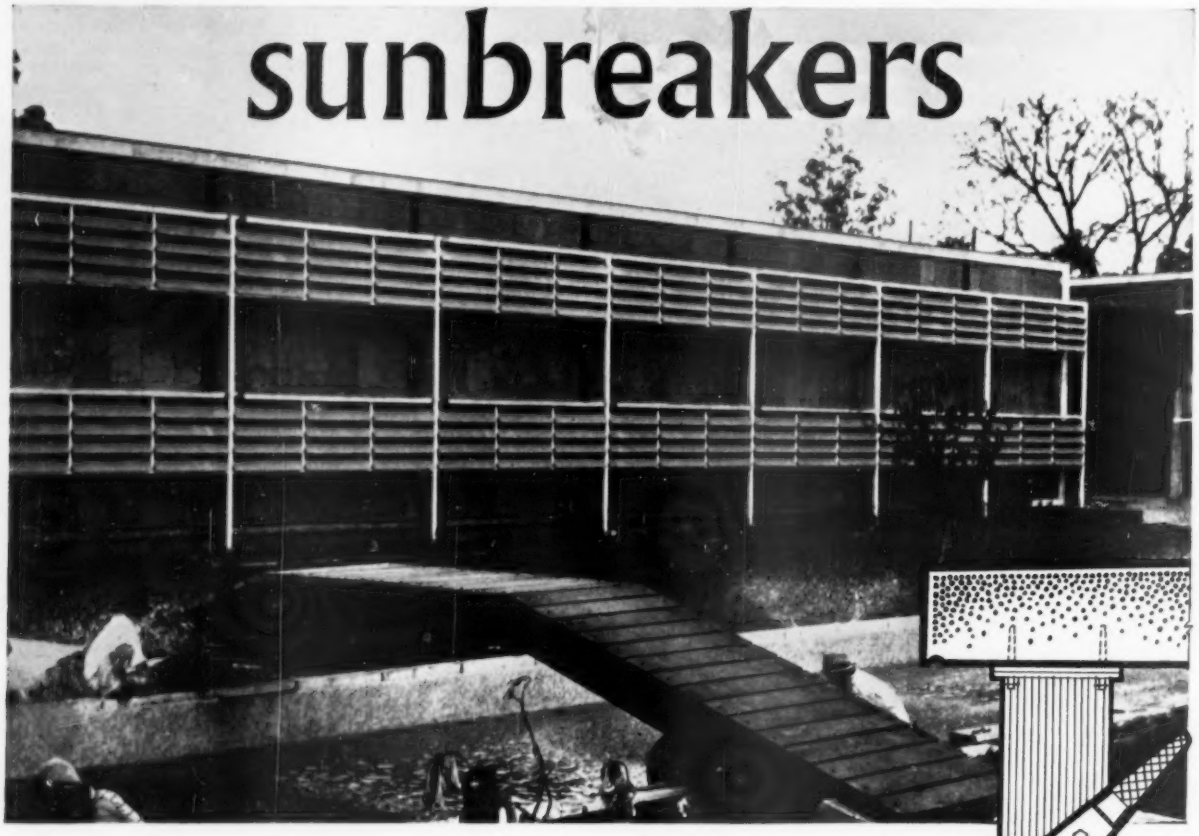
HARVEY PERFORATED METAL

G. A. HARVEY & CO (LONDON) LTD., Woolwich Road, London, S.E.7. Telephone: GREenwich 3232 (22 lines)

Other Harvey Products: DECORATIVE SCREENING IN PATENT METALACE AND RIBBON WIREWORK • COMPLETE INSTALLATIONS OF STEEL OFFICE FURNITURE AND PARTITIONING • STEEL CLOTHES LOCKERS AND CUPBOARDS • VENTILATORS AND DUCTING • ZINC AND COPPER ROOFING

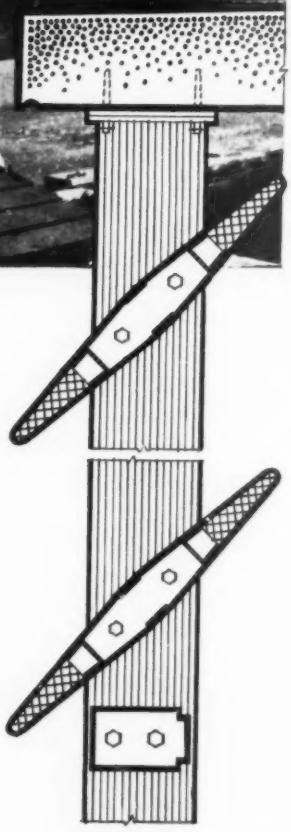
P10

HOPE'S aluminium sunbreakers



UNITED STATES EMBASSY, DJAKARTA, INDONESIA
Architects: Raymond and Rado, New York.

Aluminium sunbreakers in two tiers each 148 feet long are ranged on east and west elevations in a galvanized pressed steel framework 22′ 0″ high supported on mullions.
Sunbreakers are of aerofoil profile, lined with Fibreglass and set at 45°.
One of many interesting installations of our metal sunbreakers in the tropics.



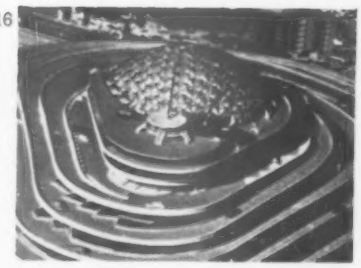
HOPE'S WINDOWS
The Name Guarantees

HENRY HOPE & SONS LTD
SMETHWICK, BIRMINGHAM
LONDON: 17 BERNERS ST., W.1

Helicoid

this machine-age Praeneste will make —if it is allowed to stand long enough. It is also to be noted that the most recent version of the project-model, 16, shows a Kaiser/Fuller dome in aluminium, not a ribbed concrete one, as the crown of Jorge Romero Gutierrez's design.

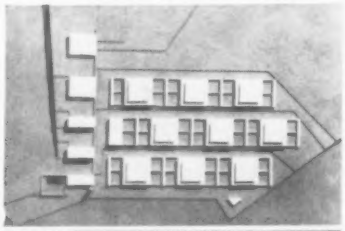
16



FINNISH PATIOS



17



18



19

The relentless efflorescence of supposedly Mediterranean themes in Northern architecture persists. After much sun-baked discussion at CIAM (and projects for North Africa) high density, *low*-rise, 'pompeian' town planning has finally appeared in Finland, 17. These patio-houses at Esbo, by Toivo Korhonen and Jaakko Laapotti, were originally intended to answer to the ideal, diagrammatic plan shown in 18, in which each house-block was to contain four dwellings, two facing each pedestrian lane, and opening on to a garden court at each side. In fact, this two-storey concept was realized only in one row of houses (to the right in 17), and the rest of the development was completed in single-storey, single-sided blocks, 19. Although this lowered the overall density and the amount of traffic in the lanes, the internal townscape of the scheme maintains the original intention, 20.

20





21

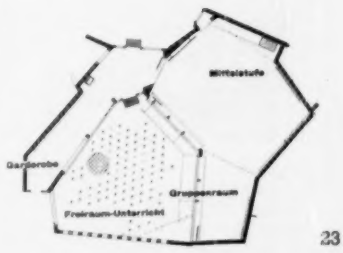
SCHAROUN SCHOOL IN LUNEN

Those who have followed the history of German architecture since the late War can hardly fail to be moved by the sight of a *completed building* by Hans Scharoun, the Geschwister-Scholl high school for girls, 21, hard up against the Old Town at Lunen. Revered as a teacher, admired beyond measure by his fellow-professionals, courted by Brutalists and Informalists from outside Germany, but ever the second prizeman in competitions, Scharoun has now been given a chance (by the same foundation that supports the *Hoch-schule für Gestaltung* at Ulm) to realize the much discussed school design, 22, he showed at the Darmstadt-Gesprach as long ago as 1951. The Lunen version has less sectional interest than the Darmstadt project because its only vertical development is the location of the upper grade class rooms on the roof of the long 'halle' that serves the school as a multi-purpose space for eating, circulating, library, keeping tropical fish and group activities generally.

But if the section disappoints, the plan triumphs, 24. Rarely has informality, 23, verging on apparent vagueness, made such strict practical sense—nor, alas, produced interiors so incomprehensible in photographs. Rarely has standardization looked less uniform—yet all class-rooms, including those of the upper grades, are identical in form and construction, and their external class-spaces are identical for each class-room in any grade, near enough. Whatever may be said about



22



23

24



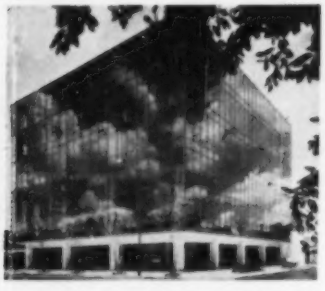
Scharoun

the special circumstances behind the commissioning of this design, and the generous budgets (including a generous heating allowance) it remains one of the most original post-War schools in Europe, and will give Formal/Aformal arguments a new lease of life.

DIAGRAM

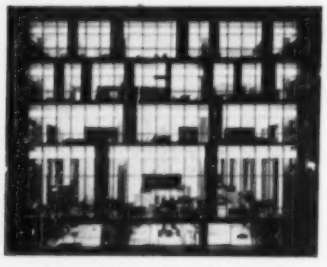
The US magazine *Arts and Architecture* seems to have a knack of finding strangely diagrammatic buildings, or else its photographers have a way of bringing out the diagrammatic qualities of otherwise straightforward ones. Its recent publication (August, 1960) of the Gibraltar Savings Building in Houston, Texas (architects, Greacen and Brogniez) produced, 25, a text-

25

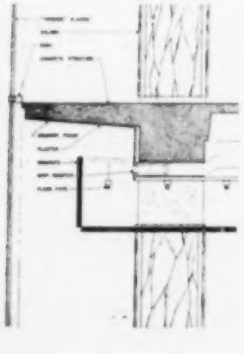


book example of a sky-cube picture of curtain-wall as reflector, and 26, an exterior night shot that carries the 'inhabited grid' aspect of glass-walled buildings to an almost ultimate condition—were the floor-slabs and mullions

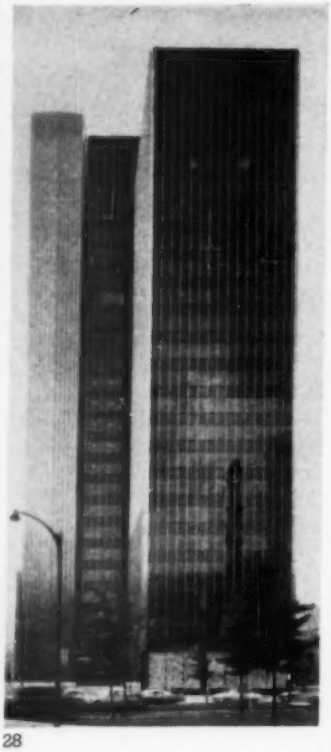
26



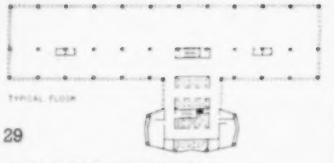
any thinner the grid would disappear. Two further points are worth noting, however. Firstly, the device used to reduce the floor edges to almost nothing, in spite of the fact that deep suspended ceilings are used, revealed in the detail, 27; and secondly, the way in which variations of floor-height are here used and put to work visually, in contrast to their concealment in the sub-station illustrated on p. 390.



27



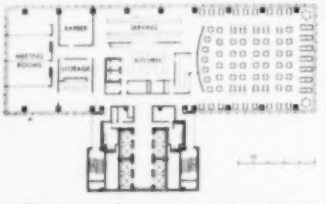
28



29

GOLDEN TRIANGLE

30 CROWN ZELLERBACH



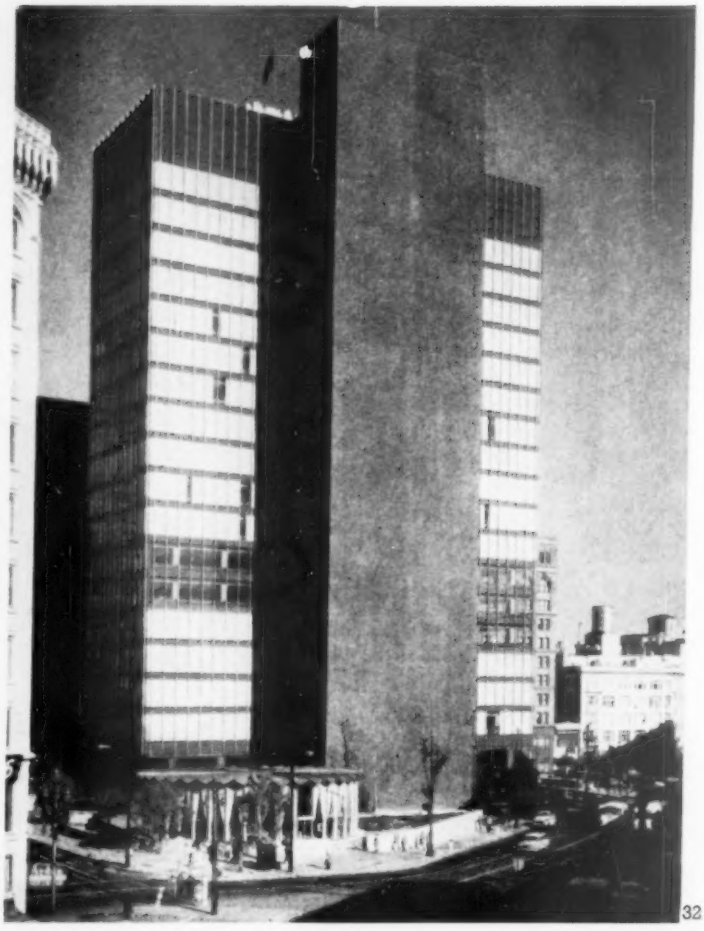
The idea of making services into a major external feature of a building is not a Lou Kahn speciality alone—the idea goes back to Le Corbusier's *Pavillon Suisse*, and has erupted also in one or two recent US office blocks. Harrison and Abramovitz's latest contribution to Pittsburgh's Golden Triangle is a 'normal' curtain walled slab standing 22 storeys high, 28, with its elevator stack not buried in the core of the building, but turned at right angles to one of its exterior walls, 29, and housed in a projecting wing of

31



FEATURED SERVICES

two recent US office towers



32

hammer-headed plan, the head of the hammer being clad in stainless-steel in such a way as to make it almost impossible to tell from outside what is going on inside. The impression, certainly, is that the elevator stack lies parallel with the main block, separated from it by the entrance lobby. Be that as it may, the stainless cladding is extremely handsome in its own right, and the projecting service tower gives partial enclosure, 31, to a piazza like that at the Seagram Building, with the advantage that here the enclosing element is within the architects' control and not, as at Seagram, at the mercy of flanking developers.

The same conflict between the implications of a hammer-headed projection and the orientation of the lifts is seen in the more modest Crown-Zellerbach Building, 31, 32, in San Francisco (SOM with Hertzka and Knowles) though here, again, the separation of services from work-floors is clearly made. However, this aspect of Crown-Zellerbach has been overshadowed in the US Press (e.g. *Progressive Architecture*, April 1960) by the eccentricities of Skidmore, Owings and Merrill's other San Francisco office block, the arcaded, small windowed, John Hancock Building, 33, and by Crown-Zellerbach's own, much-admired piazza, 34, landscaped and made partly sunken by exploiting the slope of the surrounding streets to give access at various levels.

33



34



SLIDING Doors for Lovely Homes



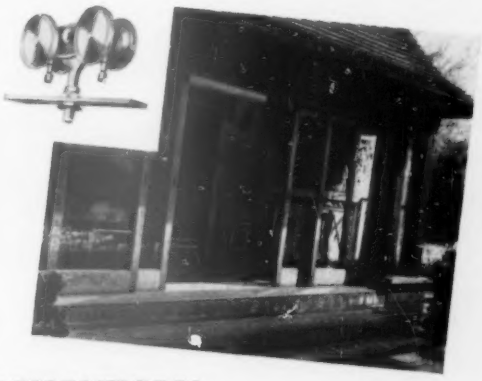
QUIET

'MARATHON'

DOOR SLIDERS (TOP HUNG)

Ball race runners for all interior doors. Superbly finished. 9 Standard Sets for doors up to 5 ft. wide. In thousands of lovely homes. Selected for the new Royal Mail Liners 'Amazon'—'Aragon'—'Arlanza' From 42/- per set. 'Lobby' economy housing sets from 32/6d.

Send for List M



'PHANTOM'

SILENT HANGERS

Top hung picture windows sliding on double tracks create that indoor-outdoor living without draughts, in lounges, loggias and pavilions.

Send for List 55



'COLLEGE'

PARTITION GEAR

For everlasting End or Centre folding partitions from 6 ft. to 16 ft. high and for any width of opening. Resists noise. Specify 'Council' for Top Hung doors and 'College' Bottom Rollers when weight must be taken on floor.

Send for List FP



NEW

'DOUBLE TOP'

WARDROBE DOOR TRACKS (TOP HUNG)

For built-in wardrobe/closet doors up to 60 lb. Neat double top track. Nylon wheels and bottom guide. 4 Standard Sets for openings 4 ft. to 8 ft. wide with 2, 3 or 4 passing doors, from 34/- per Set.

Send for List DT



'TANGENT'

GARAGE DOOR GEAR

Famous 'Tangent' Gear (400,000 Sets sold) for doors hung in sections to slide round the corner, to lie flush along the inside wall. Nothing to slam with wind. The section under curve swings and forms the service door. Standard Sets from 228s. 'Tangent' can be tailored for *any* width of opening, and is ideal for wide 2/3 car garages.

Send for List T



'ULTRA'

OVERHEAD GARAGE DOOR GEAR

No rain trap. No outside projection when door is open.

Nylon wheels. No loss to height and width.

Simple fixing. Secure locking.

3 STANDARD SETS

Gear	Height of Door	Weight of Door	Price
'ULTRA' 140	5' 11" to 6' 6"	40 lb. to 140 lb.	£11. 0.0
'ULTRA' 150	6' 3" to 7' 0"	70 lb. to 150 lb.	£10. 15.0
'ULTRA' 210	6' 9" to 7' 6"	90 lb. to 210 lb.	£11. 14.0

Quality door with Set 150, 8 ft. wide under £20
7 ft. wide under £18

Send for List OD



'LORETTO'

CABINET BOTTOM ROLLERS

As fitted in H.M.Y. 'Britannia.' Deep drawn rustless, dustless bodies (min. mortice). Nylon wheels. Standard Sets for 4 ft., 5 ft. and 6 ft. openings, from 34/- per set.

Send for List L

QUALIFIED TECHNICAL REPRESENTATIVES

Resident in all principal cities. Wait upon Architects and Builders anywhere on request and without obligation

For 40 years

Henderson
SLIDING DOOR GEAR

for any door, partition or window that slides or folds

P. C. HENDERSON LIMITED, HAROLD HILL, ROMFORD, ESSEX.

Telephone: Ingrebourne 41111, Dial IL4
H.136

ALLOM HEFFER
AND COMPANY LIMITED



The Modular fittings illustrated made in various sizes are designed for surface mounting where space for recessing is not available.

These fittings incorporate a completely new method of securing simple maintenance by means of the Allom Heffer patent locking device (Patent application No. 32933/59) which provides:

- A positive method of opening and shutting on a pull-push principle.
- Hinging on either side of the fitting when fully clear of the ceiling.
- Complete detachment of the diffuser when required.

Apply for leaflet series 707S



17 MONTPELIER STREET · KNIGHTSBRIDGE · LONDON · SW7 · TELEPHONE KNIGHTSBRIDGE 6897-8

views and reviews

MARGINALIA

SIR CHARLES BARRY: 1795-1860

One hundred years after Barry's death we can safely state that his Palace of Westminster is established as the most popular building in Great Britain. The sightseers and the picture postcards show this beyond any doubt. It may be the most popular building in the world and its clocktower alone has an emotional connotion equal to that of the Statue of Liberty.

For this the architect is to a large extent responsible. The silhouette is varied and delightful, the river front splendid, the broken Abbey front charming. The plan was sufficiently good to be exported to places as far apart as Budapest and Tokyo. The style—and this was not the architect's choice—was a happy piece of inspiration. Classic is inevitably associated with autocracy and aristocracy and the fire which occasioned the building occurred after the passing of the Reform Bill. Of Barry's contemporaries only Cockerell could have provided a building of greater distinction, but it would never have been such a popular one. The Ashmolean may be, building for building, finer than anything of Barry's, but it will never be liked without question. Cockerell was the Marvell to Barry's Dryden.

Two qualities made Barry an outstanding figure—a very exact sense of what would go and an exceptional professional competence. The Travellers Club was the production of a sensitive man who more quickly than any other felt the change in the social air (his personal background may have been partly responsible for the prescience), and the Reform Club was the production of a man who knew he had found what answered. His work for the aristocrats was similarly apt. They were on the point of degenerating into the Arnoldian barbarians, but enormously enriched by the minerals under their lands or by simply having a head start in the race to Victorian wealth. Barry gave them bold, rich, and admirably contrived accommodation. His houses are really wearing their jewels. Bridgewater House, 1, the last remaining great Victorian town house, is a good example of the manner, and it adds an ironic twist to Barry's centenary that it should now be attracting the attention of the speculative developers.



1



2

Two buildings by Barry whose future is in doubt: 1, the Hall at Bridgewater House, St. James's and, 2, Felix House tower at Walton-on-Thames, Surrey.

Of Barry's competence there can be no question; he was pre-eminent. The Palace of Westminster was built under appalling difficulties at a time when there was no experience or office organization for a job of this magnitude. It took a man of firmness, agility and fortitude to do the immense amount of work. Everything went against him—the MPs subjected him to spiteful attacks, his technical advisers let him down, the bell cracked, the painters couldn't manage fresco. Not many men could have seen it through, and for having done so all subsequent architects in private practice owe him a debt. The competence went much further than the professional life. He made his buildings fire-proof. He laid out Trafalgar Square in such a manner that London should have had at least one grand enclosure. He designed greatly impressive formal gardens when nobody else could. In great and small things he was splendidly efficient.

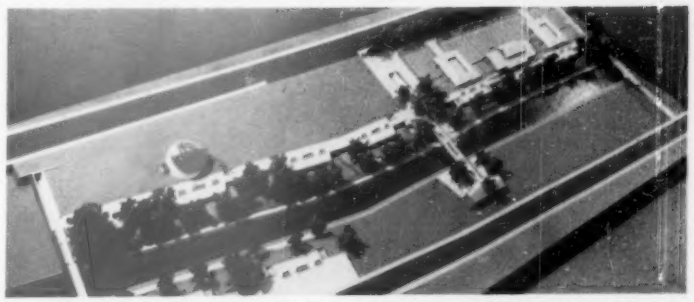
Peter Ferriday

ZOO RECONSTRUCTION

The work of rebuilding, re-equipping the London Zoo, and bringing it up to international standards of display is now out of the planning stage, at least as far as the north-western part of the Gardens is concerned. This phase of the work, to be carried out with the money recently donated to the Zoological Society by Mr. Jack Cotton, consists largely of terracing and landscaping the banks of the Regent's Canal to a scheme devised by Peter Shepheard, creating paddocks for deer, etc., which may be viewed either from the canal bank, or the high walk behind, at park level. Houses for the animals will be built under this high walk, and visitors will be admitted to the lower level to view them in the winter quarters at the appropriate times of the year.



3



4

3, moated paddocks for camels, giraffes and cattle, part of the proposed Canal Bank section at the London Zoo. 4 shows the new layout of the Middle Garden and Canal Banks.

On the higher level, Decimus Burton's Giraffe House is to be re-built with new wings added in a sympathetic style, by the Zoological Society's own architect, Franz Stengelhofen. The outdoor paddocks for the animals in this section will not be fenced, but surrounded by narrow moats, 3. Further terracing and landscaping will be done on the other (north) bank of the canal, and a new bridge is being designed by Sir Hugh Casson, Neville Conder and Partners. The complete new works are seen in the view of the model, 4. In this the famous Gorilla House, one of Tecton's pre-war designs for the Zoo, is on the left.

IUA PROGRAMME

The organizing committee of the Sixth Congress of the International Union of Architects has now issued the detailed programme of the Congress which will take place in London in July next, as announced in the AR for October. The programme is detailed even to the extent of giving information about London weather, as well as a full time-table of the Plenary Sessions, meetings of Working Groups, etc., announcements about supporting exhibitions, tours, receptions and visits, and registration information. A point that needs to be drawn to the attention of non-members of the IUA is that, if they attend the congress as Observer Members, they do so at the same fee as Full Members, and enjoy all the

same rights and services as full members except the right to vote. The term 'observer' is interpreted to include practically every class of person and profession with a bona fide interest in architecture, so that there is unlikely to be anybody with a real desire to know more about current international views on the influence of new techniques and materials who will not qualify.

Applications for membership, which should arrive before January 1, 1961, and other enquiries, should be sent to: the Organizing Secretary, Sixth Congress of the IUA, Royal Institute of British Architects, 66 Portland Place, London, W.1.

INDUSTRIAL ARCHAEOLOGY

A midsummer event for which delegates to the IUA Congress might well wish to stay on in England after the Congress and its supporting activities are finished, is the pioneer Summer School in Industrial Archaeology to be held under the sponsorship of Manchester University from July 15–29. The director of studies will be E. R. R. Green, secretary of the Industrial Archaeology Research Committee, and the subjects to be included cover canals, mining, waterpower, survey and research techniques, Dr. Raistrick on Coalbrookdale and C. T. G. Boucher on John Rennie. There will also be a series of visits to sites within reach of Manchester. Application forms may be had from the Department of Extra-mural Studies, University of Manchester.

DESTRUCTION AT ABERDEEN

Judging from the wanton destruction of every piece of Victorian furnishing and decoration in St. Mary's Roman Catholic cathedral at Aberdeen, it looks as if Aberdonians still hold the belief that anything built between 1840 and 1900 is automatically ugly. It is doubtful if any place of worship in Britain erected in the last century has been purged so thoroughly as this fine example of Gothic Revival, designed by Alexander Ellis (1830–1917), and opened in 1860. Ellis may not have been an architect of the first rank, but the many churches in the north-east of Scotland for which he was responsible often show an originality not found in the work of some of his contemporaries; e.g. John Henderson, Alexander Ross, and Mackenzie and Mathews.

It has been stated that the purpose of this ambitious and costly renovation scheme was to make the cathedral a model of community worship in the diocese. Elsewhere we are told that it was impossible to make of the building 'a cathedral conforming to modern liturgical law and practice' without replanning and refurnishing the interior, lock, stock and barrel. An objective observer might be inclined to say that the real urge was to conform to what is nothing more than a fleeting phase of ecclesiastical fashion.

The font was removed from its structural baptistery and put against the wall at the back of the nave. The baptistery was turned into a Lady Chapel. The curved rood beam with its crucifix and statues (reminiscent of the one designed by George Gilbert Scott junior at St. Agnes, Kennington) was hauled down. The mouldings of the lofty chancel arch were taken off or filled in with cement, and its bosses hacked away, so that a streamlined effect could be achieved. The high altar and its carved stone reredos were smashed to atoms, just as were the reredoses of the two side altars. The canopied pulpit, bishop's throne, the marble communion rails with their wrought iron gates, the Stations of the Cross, and every statue were cast out. Even the marble pavement in the chancel fell under the ban.

The replanning and refurnishing must have cost much less than the destruction. All that has been done is to erect a plain grey granite holy table between the nave and the chancel, so arranged that the celebrant at Mass may face the people. The new bishop's throne stands on a platform against the east wall below the rose window, and dominates the interior. The yellowish brown oak panelling around the lower part of the walls helps to create the illusion of being in a typical modern Presbyterian kirk. Oak floor boards have been substituted for marble. The colour scheme of the interior is composed of vivid forget-me-not blue walls in the aisles, bright grass green in the chancel, and pale purplish grey in the nave. It is high time that good Victorian churches were given the official protection already afforded to buildings of earlier date.

Peter F. Anson



5, *St. Mary's Cathedral, Aberdeen, as planned and furnished by Alexander Ellis in 1860. All that remains of the original furnishings is the base of the pulpit, removed to St. Peter's Catholic Church, Aberdeen.* 6, *the interior as it is now, with its Victorian furnishing stripped away.*

GAUDI'S HOUSE

The house in which Antoni Gaudi lived the last twenty years of his life —seen in 7, beyond the 'ramparts' of the Parque Güell, which he also designed—is to become a personal museum of Gaudi's life and work, and a hostel for foreign students visiting Barcelona. While this is the highest point to date in Gaudi's dizzy rise to posthumous eminence as a rediscovered pioneer of modern design—what architecture students visited Barcelona ten years ago?—it is also, in a quieter way, a triumph for the Amigos de Gaudi, who purchased the house and established its new role, and part of a general quickening of local activity connected with his architecture—there are strong reports of major developments towards the completion of the Sagrada Familia, and some work is being done on its site again.

WASHINGTON HOTEL, LONDON

The caption to the picture of this hotel in the October AR described the concrete frame as being faced with glass mosaic. It is now learnt that the material is a glazed ceramic mosaic, imported from Italy.

CORRESPONDENCE

THE GREENWICH LAYOUT

To the Editors.

SIRS,—The subject of 'The Greenwich Layout' of Inigo Jones, dealt with in your May issue by Mr. Octavius Wright, and referred to in your August number by Mr. John Harris, is of deep interest in the study of seventeenth and eighteenth century architecture.

When the problem of the Queens House is approached from the angle seen by the architect, the initial task is clearly to provide the suitable accommodation that would fulfil the practical needs, as well as the Royal apartments, of a diminutive palace. Inigo Jones undoubtedly understood that even a *petite* royal residence would



7, *Gaudi's House from the Parque Güell.*

The ceiling that lights



Architects: Architect's Department, Ministry of Works.

Lumenated Module ceiling for a new-look Post Office

In the modernisation of the 50-year-old main post office at Eastbourne, Sussex, new light and new life have been given to the public hall by the installation of Lumenated Module units.

Lumenated Ceilings are precision made. They arrive on site ready for immediate erection—using a minimum of skilled labour. They are covered by a comprehensive guarantee and a full maintenance service is provided. Expert co-operation on design and installation can be given by our experienced staff. Most Lumenated Ceilings diffuser designs have been accepted by the Council of Industrial Design. Please write for full details.

LUMENATED CEILINGS LIMITED

A member of the Hall-Thermotank Group

ALLIANCE HOUSE, CAXTON STREET, LONDON SW1. TELEPHONE ABBEY 7113

TGA 691



Supermarket, Fine Fare Ltd., Bedford.
Architect: B. R. Archer, A.R.I.B.A., A.A. Dip.

You are in



Council Flats, Water Lane, Stratford, E.15.
Architect: Thomas E. North, O.B.E., F.R.I.B.A., Dist. T.P., M.T.P.I.

good



Institute of Marine Engineers
Memorial Building, Fenchurch St., E.C.3.
Architects: Ronald Ward & Partners.

company



Royal London Mutual Insurance Soc., Ltd., Lansdowne, Bournemouth
Architect: H. Bramhill, F.R.I.B.A., Dip. Arch. (Liverpl.)

when you



The Research Building, International Computers and Tabulators Ltd.
Architects: Ley, Colbeck & Partners, F/F.R.I.B.A.

specify

TALBOT PAINTS

TALBOTEEN *Gloss Enamel*
TALBOTEEN *Semi-Gloss*
TALBOTEEN *Satin Wall Finish*
PERVELAC *Emulsion Paint*
TALBOT *Cement Seal*
COPON *Epoxy Resin Base Coatings*

E. WOOD LTD. *Architects Service Dept.*
18 LONDON STREET · LONDON · E.C.3 *Telephone ROYAL 8511*
Factory: Talbot Works, Stanstead Abbotts, Hertfordshire, Stanstead Abbotts 174-5-6

Branch Offices and Depots throughout the United Kingdom

have to provide wing accommodation for a considerable entourage of Ladies in Waiting and officers holding personal appointments as well as the even larger number of servants and domestics.

The first sketch plan of Inigo Jones assigned to the year 1630-31 (Fig. 3, page 30, of George Chettle's *Queens House*) shows the four wing pavilions of a scheme which is clearly intended for the Queens House. Each of these wings provides some four apartments on each floor, each with staircase and having an equal number of storeys to that of the house, namely three levels. In result, this scheme of Inigo Jones provides auxiliary accommodation for the Royal entourage of quite forty-eight rooms or twelve rooms in each wing.

To the mind of an architect this accommodation contained in the wings was essential for the practical working of the establishment, and makes a very strong case for the correctness of the claim that the original intention of the design for the Queens House included these four pavilions. Furthermore, the sketch elevation given by Inigo Jones, and shown in Fig. 3 quoted above, is an important architectural unit, each of the four faces presenting three classical porticoes and pediments grouped together surrounding a large formal open court.

This architectural conception of Inigo Jones's, as shown by Fig. 3, can hardly be characterized as 'a small and original "conceit" '; when placed on its dominating site at the highest level of the whole Greenwich layout it fulfils its purpose as a focal unit in the larger conception of a grand palace layout that was doubtless in the mind of Inigo Jones.

It was the intention of Charles II in 1661 to rebuild the Royal Palace at Greenwich as a large and magnificent scheme of buildings between the waterfront and the Queens House, and there seems little doubt that a plan for such a palace then existed, for the king took special care to commission Webb, by royal decree, 'to become Surveyor Assistant for the *erection and building* of our palace at Greenwich.' It should be noted that the explicit directions are confined to 'erecting and building' (vide page 183, J. Lees-Milne's *Inigo Jones*).

That Webb's plan for the new palace was based upon an earlier original by Inigo Jones agrees with the known loyalty of Webb for his master, Inigo Jones.

Such a probability is in close accord with Webb's action in following Inigo Jones's design for the Queens House in 1661-63 when Charles II decided to repair and enlarge it (vide plate 21 showing plan derived from Inigo Jones —Chettle's *Queens House*).

The early siting of the Charles II block in the position adopted close to the waterfront and having an axial balance with other obviously projected units of a palace layout, points to the fact that its siting conformed to an ordered formal plan for the whole palace scheme and the Charles II block was not an isolated 'Kings House' but clearly was the first unit of the palace to be built according to a sumptuous plan and this plan was created at an early stage long before Sir Christopher Wren undertook to complete the scheme.

All these connected facts go a long way to sustain Mr. Octavius Wright's theme.

Yours, etc.,
W. BRAXTON SINCLAIR
(Hon. architect,
The Blackheath Society).

BOOK REVIEWS

ARTISTIC AUTONOMY

THE DEVELOPMENT OF THE ARCHITECTURAL PROFESSION IN BRITAIN. *By Barrington Kaye. University College of Ghana and George Allen and Unwin. 1960. £1 1s.*

The author, who is not an architect, began this work as a research study for a Ph.D. thesis presented to London University in 1951. It attempts to answer two main questions: why did professionalism develop among British architects when it did, and why has the profession come by its present form.

I found the wealth of quotations and the vivid examples which the author cites in support of his main thesis the most fascinating part of this book. I am less happy about the thesis itself. He writes good and succinct English, with considerable erudition. The twelve bibliographies, occupying twenty-two pages at the end of the book, are first-rate, and the text is fully cross-referenced to them.

A good part of the book is necessarily taken up with the history of the profession in the nineteenth century. As the author describes the malpractices of the times, the arguments advanced by apologists of the various factions, lay and professional, one's mind is led inevitably to make intriguing comparisons between the past and the present day. So many of the old sins are still with us, although perhaps only as peccadilloes, lying quietly just beneath the 'professional' veneer. For example, in Dickens's day, the close association between many architects and the interests of the trade was an open scandal. Today we still have our black sheep quietly preparing speculative schemes for development on sites they do not own, which they hawk round the trade fraternities. In the last century, the opposition to the idea of schools for architectural education was based openly not only on philosophical grounds but also on the acknowledged fact that pupilage was a major source of revenue for many practices. Today the backwoodsmen rely publicly on philosophical grounds. Again what a topical note is struck by the account of the 'art or profession' controversy at the turn of the century, and by the reference to Norman Shaw's treatise 'That an artist is not *necessarily* impractical' (my italics).

The author starts from the point of view that professionalism arises from the need to establish guaranteed standards of competence and of integrity, both in the interests of the public and of the professionals themselves. Architecture, he says, is different from any other profession in being also an art, and he discusses, in some detail, the dilemma of 'artistic autonomy' which architects face in relation to their clients. His analysis of the battle of the styles throws interesting light from this particular angle, on the growth of professional organizations in the last century. In the last few pages, however, he refers to modern architecture and concludes that because architecture can now satisfy 'both sets of criteria,' functional and aesthetic, 'no dilemma arises.' Again, after the second world war 'for the first time since . . . the first half of the eighteenth century, the architect and his client shared the same taste.' How one wishes this theorizing were, in fact, borne out by post-war experience.

When I say I am not happy about the author's main thesis, I do not mean to question his main point that professionalism arises from the need to establish, in a free market, guarantees of professional competence and integrity. Historically, he has demonstrated this well enough. I question very much, however, his last few pages, and feel he would have done better to have omitted these and to have left the profession—where it obviously is—still groping.

He seems in these to imply that with the achievement of registration, and the setting up of the Board of Architectural Education, the profession has achieved its ultimate goal. Certainly these were significant steps, but they were achieved only at the level of the lowest possible common denominator. The profession has hardly begun, as an organized body, to put guts into the meaning of the word 'architect'—that is, to step up the level of professional competence and of integrity to a point where the 'artistic autonomy' of the architect will become automatically recognized by the public on merit, and as a result of service given and respected. I doubt whether any legislation can achieve this, in advance of performance.

Mr. Barrington Kaye, in his final chapter, states that once full closure of the profession is achieved, it is difficult to see what advantage membership of the RIBA will hold out. He asks what the function of the Institute will now be. The avowed object of the RIBA is to advance the art of architecture. I have no doubt that, under this broad umbrella, the functions of the Royal Institute must be two-fold—both to advance the levels of education and of performance by its members, and to safeguard their professional interests (remuneration and 'artistic autonomy') whether they are employed on a salaried basis or for a fee. The role of the RIBA within the Architects' Registration Council, is analogous to that of the BMA within the General Medical Council, with the important distinction that the RIBA has also to fulfil the educational and academic functions of the Royal Colleges and other examining bodies.

In an appendix Mr. Barrington Kaye gives figures of RIBA membership as a percentage of the total number of architects in the country. He may have been influenced in his doubts about the future of the RIBA by the fact that his statistics stopped at 1941. I give below figures extracted from the RIBA Kalendar and from the Register of Registered Architects for the years 1950 and 1960, together with extracts for earlier years from his own table. The consolidation of the RIBA's position is interesting. I regard also the recent Council decision to make major constitutional changes, the reform of the RIBA Board of Architectural Education and the two 'A' level qualifications for entry, as good auguries for the future.

Year	*RIBA Membership*	*Total Profession*	*Percentage*
1841 ..	153	1,675	9
1881 ..	787	6,898	11
1921 ..	4,538	9,412	48
1931 ..	6,591	9,246	71
1941 ..	8,874	14,648*	61
1950 ..	12,052	17,422*	69
1960 ..	19,687	19,183*	100

* Registered architects.

Cleeve Barr

ULSTER IMPRESSIONS

THANK YOU NOW: AN EXPLORATION OF ULSTER. *By Oswell Blakeston. Anthony Bond. 25s.*

This is an engaging if superficial blend of travel and guide book. The author was driven on a rapid tour of Northern Ireland by a friend named Max Chapman, and has recorded his impressions for their own sake and for the benefit of tourists. He concludes with railway fares and an incomplete index of place names 'as a key guide for holiday makers.' None the less, Mr. Blakeston is not only informative but diverting. He excels in recording the local talk (often the talk of the local), and traditions that seem to him memorable; but that does not distract his sensitive attention from the character of the landscape nor the flavour of the architecture. The photographs, some of which appear to have been taken by Max, though no attribution is given, are also to be commended.

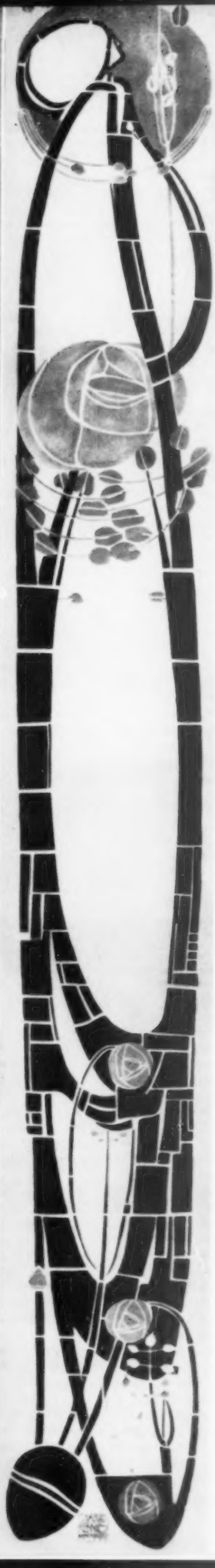
But there are some oddities of approach. The rest of Ireland is virtually ignored, and even blacked out on the map so that the reader cannot see the geographical relation of places in the North to those in the Republic. Customs and traditions common to the whole of the island are mentioned as though limited to Ulster. It is surely impossible to write convincingly of one part of Ireland without some knowledge of the remainder. Such knowledge might have deterred Mr. Blakeston from giving as *the Ulster toast* a garbled version of *the Connaught toast* in which he substitutes for the concluding line *And death in Erin* the poetically feeble alternative of *May you die in Northern Ireland.*

One is led to question the accuracy of some of Mr. Blakeston's information by his statement regarding the lighthouses on the rocks called the Maidens. These, he says, 'have a lighthouse each. When the older one needed repairing they just left it and built another on the second island.' The word 'they' refers presumably to the Commissioners of Irish Lights. It did not perhaps occur to Mr. Blakeston that his book would be reviewed by one of them. In fact the lighthouses in question both came into operation in 1829. In 1903, when a new light was exhibited on the eastern tower, the second light was discontinued. If it be argued however that travel books are concerned with Travellers' Tales rather than facts, then why omit the romantic story of the lighthouse keeper's son on one of the Maidens who wooed the lighthouse keeper's daughter on the other by signalling and eventually eloped with her in a rowing boat?

Bryan Guinness







The exhibitions of the Council of Europe have become an institution. The Rococo at Munich (1958) was followed by the Romantic Movement in London (1959). Now it is the turn of Paris and the Sources of the Twentieth Century. This exhibition, which opened on November 4th, is fascinating but very confusing, as these samples show. Can a coherent story be presented round them and Cezanne and Kokoschka? Some notes next month will deal with this problem. Here are three items from the exhibition: above, Epstein's 'Rock Drill' of 1913-1914; right, Voysey's 'Dragon' wallpaper of c. 1893; far right, Mackintosh's banner hanging of c. 1900.

Ian Nairn

BE THYSELF

SOME THOUGHTS ON A JOURNEY ACROSS THE UNITED STATES

Ian Nairn, who has recently travelled across the United States of America and back, driving his own car and examining the American scene at the closest possible quarters, here discusses an aspect of territorial character and planning that applies to all countries, Britain not excluded, but is most clearly illustrated in the newer, more vigorous and fastest developing countries where the process of change is visible to the naked eye.

I have recently driven ten thousand miles in America. The end of San Diego looked like the beginning of Philadelphia, and both looked awful. So any article on it could legitimately be a howl of rage; yet it could, with such a slight change of emphasis, be a Sandburg-like celebration of America, or rather of America's potential, the America that could be—not less American than it is now, but more.

For the local differences in America are immense; intensely felt, yet completely unexpressed in visual terms, as differentiation between places. They are unexpressed in the one sphere where differentiation could have most effect, where places could react on people and make them more individual, and so on in a kind of ascending spiral. Go out fifty miles from Chicago into Illinois and you see identical towns with identical outskirts (identical, also, with towns in New England, Oklahoma or even Southern California) yet incredible local feeling. Go anywhere off the main US highways and airways—and this applies, oddly enough, to the exurban hinterland of New Jersey as well as the complete isolation of New Mexico—and the country is immediately full of idiosyncrasy and individuality. It is expressed verbally—an American local paper, of which there are thousands, is the most local thing I have ever seen—but visually it is inarticulate except in the feeblest, weakest kind of way, the way of state badges and nicknames, of the biggest this and the widest that, of Babbitt's naïve love affair with Zenith. At that level it is childish and laughable, but only by a hairsbreadth. It could so easily be splendid and noble.

What has gone wrong, and how has America got itself landed by such a narrow margin with this bill of goods? There are dozens of reasons—one of the most obvious is the doctrine of overproduction, of having several where one will do—but the real problem in America is not mess but the lack of visual

individuality and differentiation. If all the mess were cleared up, there would still be something wrong. And I think the reason for this, basically, may be a philosophical accident: that history gave a particular pattern of freedom to the one nation which wanted it least.

Here I want to use terms which first appeared in the REVIEW eleven years ago* in one of the best articles it has ever printed. There it was suggested that there were two principles of liberty: the rational principle, in which everyone was free to come to a common conclusion, and the radical principle, where each individual person was free to be himself, and the truth was a harmony or concordance of different opinions, and hence varied from place to place. The rational principle was equated with France, intellectual man, written constitutions, penal codes: the radical principle meant England, natural man, common law—and, translated into terms of the environment, be-thyself applied to places: the *genius loci* or townscape.

Now rational freedom can do very well, but the essential it must have is that everyone is like-minded, is going to come to the same conclusion. Otherwise it ceases to be freedom. And this presupposes either a small homogeneous society or the sort of cynical tolerance given by Frenchmen to their civil law today. Historical accidents—the accidents of 1776 and then 1789—ensured that America got the rational freedom to end all rational freedoms, the most eloquent written constitution, the most complicated system of democratic franchise; in town-planning terms, the most regular and rational of all town plans—the gridiron—and geometrical systems for laying out the countryside. It was all conceived in terms of like-minded New Englanders; and over the next century it was applied to what has become the most polyglot nation the world has ever seen. Politically, this has meant that the nation which is most concerned with liberty is in some ways less free than any other—because there is only one conception of liberty you are free to adhere to. Hence the American way of life, which should be such a splendid, free-ranging, paradox-encompassing thing, has somehow become a symbol of conformism which is no less effective because it is not overt, like Communist, Fascist or Catholic conformism. The Civil War was fought not over slavery but over secession.

Observe, now, the town-planning consequences that flow from this rational principle applied in such inappropriate circumstances. (This is not intended to be the whole truth. It may, however, be an aspect of it; and in any case Be-Thyself admits of the coexistence of several truths about the same set of circumstances, which is handy.) The rational principle had at that particular time been identified with geometrical patterns of streets and squares. In New England it corresponded to a yea-saying community—I don't mean conformist, I mean a community of parallel thinkers. But look at what happened: where law and government become Penal Code and Constitution, town-planning became Established Tradition, the equivalent of law. Hence geometrical plans everywhere, first by imitation, natural though inappropriate, and then, in the nineteenth century—and this is the fatal thing—as a matter of simple commercial expediency. This is the fundamental flaw of the rational principle: that once it is on paper or established, it cannot change its goal and it cannot distinguish motives—the law is the law. Be-Thyself, by the exercise of common sense, can discriminate, and its law is not inflexible. All of America's subsequent planning troubles can be expressed in terms of this—that, being inflexible, the rational way of thinking could only deal with mass production in the existing framework—by treating a group of ten thousand as though it were ten thousand individuals, possessing by right ten thousand individual freedoms. Of course, it is not; it is a different animal altogether, and a very dangerous one. This is not to say that Be-Thyself or radical thinking will automatically recognize this, but at least it has the chance.

The connection between this and billboards or gas stations is absolutely direct. For one man to advertise his goods on his own land is legitimate: it makes direct sense, the doer cares about the thing done, account is taken of the environment. For ten thousand men, organized as a corporation selling petrol, to put down ten thousand signs on other people's land is by rational thinking treated as being the same thing. What else can it be?—$10{,}000 \times 1 = 10{,}000$; q.e.d. Hence, by analogy, every kind of mass-produced mass-disseminated dumping on the landscape is treated in men's minds as though each were a separate, individual act—rather like struggling in the clutch of a super-octopus yet treating each tentacle separately.*

And what is true of one person as against ten thousand people is true of one thing versus ten thousand. Ten thousand things have an economic life of their own, represent an investment which is not equivalent to the sum of individual units and cannot be dealt with in individual terms. To argue that a certain cake-mix or soup-powder is going to give you an individual cake/soup is immoral as well as incorrect. What it gives you is a constant, X, which is quite different from what you would make yourself, but may be bad or good. To inflate this constant into a norm for individual cooking is a process perfectly logical by extension of rational thinking, perfectly absurd in fact. Similarly, if you like, to inflate the (quite rational) responses of a particular type of Viennese to be a national standard of psychoanalysis. Similarly also, though this is a world-wide failing, to inflate a certain very specific pattern of urban living, the block of flats surrounded by green space, into a pattern to be applied to urban renewal everywhere.

And if the inflation of ideas in good faith is bad enough, what can be said for the deliberate creation of ideas in bad faith, or at least with the deliberate intention of raking in the lolly? Ranch-type houses make sense in the ranch country, *haciendas* in California, saltboxes in New England, each called forth by an individual response to climate and conditions.

* Townscape, by I. de Wolfe, AR, December, 1940, page 355.

* I am writing this in a pub. Around, two dozen people are having conversations, leading no doubt to mutually contradictory conclusions, and I with my writing pad am non-conforming to a fearful degree, if we were living under a rational law. But English pubs, with limits of the anti-social assessed as carefully as a Solomon (different pubs, different limits) are apotheoses of Be-Thyself.

To offer this kind of spurious choice to a customer in Indiana—which could be justified by the rational principle, one-for-all, all-for-one, and so on—is an act which debases the originals, debases the recipient, and, dear God, how it debases the landscape. Radical thinking would say: X doesn't fit this particular set of circumstances, let us evolve our own alternative. In just the same way, mechanical air-conditioning is one mass-produced solution applied universally—what is needed is a dozen kinds of air conditioning, some mechanical and some natural, according to the different conditions of site, climate, diurnal and annual variation. In general what is needed is choice, is liberty—true Be-Thyself liberty, not a paper ideal imposed alike on cultivated Bostonian and illiterate redneck from Mississippi.

Easy to say, and hard to do: it could be argued that the Puerto Rican gangs in New York are being themselves as hard as they can. But they are being themselves outside the law only because the existing pattern will not let them be-themselves inside it—all they can be is, really, all-Americans, the final debased end product of the rational principle. True Be-Thyself carries its built-in discipline. For if you are yourself to the nth then other people must be too: so must be the hillside at the edge of town where the supermarket went, the nigras down the road, the bum on the bar steps. Social limits become not a duty laid down by law (or class or tradition or whatever word you want to use to describe the face of falsehood) but natural reciprocal limits to your actions. Radical freedom was not built in a day—what there is of it in England took about a thousand years to create—but a little of it goes a long way.

So finally, to stop being an unqualified philosopher and start being an unqualified land-planner, my plea to the American environment is—be yourself. Be yourself, in all your glorious potential variety, individuality, multiformity. To the little Panhandle towns sheltering under their splendid elevators—shake off the dross put on you by those who neither know nor care about you, make up a pattern appropriate to your site and purpose. To the little dour country towns in Wisconsin, to the city-of-towers of Chicago, or the city-of-terraces of Baltimore; to Salem, Missouri, a hillbilly town and proud of it, and Salem, Massachusetts, a patrician town and proud of it—each be yourselves, to the limit of your ability. In character you are so already: give the character visual form, and hence enrichment, roots, continuity. To the suburbs of New Orleans—stop looking like Detroit: to the suburbs of Detroit—stop looking like New Orleans. To everyone, select your own particular pattern, fulfil it as far as you can. The more you deviate from a statistical norm, the more you will be really and truly American, citizens in the real sense of the land of liberty.

A MODERN CHURCH ON LITURGICAL PRINCIPLES

To regard the Liturgical Movement as a most promising new source of valid forms in church architecture, is to miss its point completely. It is clear that many entrants in the recent Liverpool Cathedral Competition did regard it in this light, and adopted what they believed to be liturgical forms. But, as readers of the Reverend Peter Hammond's pioneer article in AR April 1958 will know, even without reading his more recent book *Liturgy and Architecture*, nothing formal or stylistic is advocated by the Liturgical Movement.

Rather it postulates a complex of spatial and functional relationships between priest and congregation, the ritual and the instruments of ritual. It sees the liturgy as an exchange of actions between priest and people, not as a passive spectator/actor relationship such as is implicit in arena planning of the sort often mistaken for liturgical. If there is a tendency to centralised planning under liturgical leadership, it derives simply from the difficulty of taking an active part in anything if one is too far away from it. The church of Saint Paul, Bow Common, the first notable representative of liturgical planning in Britain, illustrated on the next five pages, has a roughly centralised space only, and is planned in concentric zones, within which the congregation can almost be regarded as mobile, since the seating is not fixed.

The Liturgical Movement does not offer the architect forms, it sets him a double functional problem to be resolved in a single solution: to create a functional space—part of the usable space of the parish—to house the priest and congregation in the celebration of the ritual, and a symbolic space—part of the universal space of the kingdom of God—to house the altar, the symbol of Christ's presence among



A service in progress at St. Paul's, Bow Common, showing the central altar, raised on three steps, corresponding to the liturgical hierarchy of priest, deacons and people.

God's people. This double objective might be achieved by applying symbols to a functional structure, but that would simply be window-dressing. The outcome is only architecture if the functional and symbolical are indissoluble.

The visitor—better, worshipper—can be left to judge for himself how far this is true of St. Paul's; the reader who must judge it by photographs and plans need some guidance. The building offers a space which gives the congregation freedom, but without being imprecise or vague. The structural form that houses the space is at one with its symbolic meaning. Thus, the outer ambulatory is defined by the row of columns that support the lower roof, and by the brick paving laid to withstand the wear caused by ambulation. The central space, for worship, is defined by the columns and the higher roof; the seating is movable, but the altar, properly, is fixed, within a sanctuary defined by the hanging corona and the great skylight above. The altar is raised, not only for sight-lines but also on steps that correspond to a liturgical hierarchy, but there is no altar rail—the zone where communicants kneel is indicated by brick paving, once more, laid to withstand the wear caused by kneeling.

Usages such as this accord very well with the dictum that well-designed objects contain, in their very forms, instruction about their mode of use, and these changes of floor-surface make St. Paul's recognisable as a well-designed artefact even by those who know nothing of the Liturgical Movement. The point is worth making, because it underlines once more that the Liturgical Movement relieves the architect of neither functional nor formal responsibilities. It sets a programme, and the architect's task is to make a building to satisfy the programme, and his building will be architecture, or not, in accordance with the way he satisfies it.

The justifications of the Liturgical Movement are religious. Its interest for the architect lies in the kind of brief it will give him when he is asked to design a church—not vaguely emotive in the recent atmospheric manner, not fanatically precise over trivia, as with the Ecclesiologists of the last century, but concerned with functions and people.

Such a brief, while in no way impairing the religious qualities of the building—quite the other way about—puts the conceptual stages of church design on the same intellectual and imaginative footing as applies in the most forward areas of secular architecture at present. Peter Hammond, in *Liturgy and Architecture*, makes a specific comparison with the post-war schools building programme, but he might, with even greater force, have cited the Nuffield Trust's work on hospital planning and design, where psychological, if not spiritual, considerations have been given their due at last, alongside the functional and mechanical.

To propose such comparisons may seem shocking to some sincere churchmen and religious architects, but the liturgical approach does enable today's architects to tackle church design without feeling—as has so often been the case—that they are abandoning the moral fundamentals of their architecture, based on truth and honesty in material and function, and relapsing into a theatrical pseudo-mysticism. As a result, St. Paul's can serve the needs of the Church without ceasing to be a modern building. Modern, that is, not in terms of current decorative clichés, structural acrobatics or fashionable formalisms, but modern in the sense of the hard core of moral conviction that holds together any number of formal and structural concepts on the basis of what Lethaby called 'nearness to need.'

CHURCH AT BOW COMMON, LONDON

ARCHITECT | **ROBERT MAGUIRE** *(associate designer, Keith Murray)*

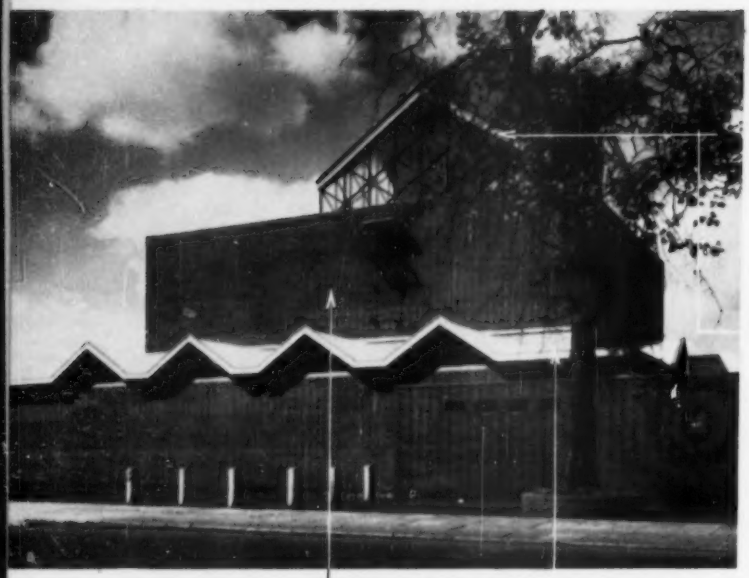


1. looking north-east from inside the west door. The free-standing altar, underneath a high glazed lantern, is just out of the picture to the right. The clerestory walls are purple-grey brick, resting on the aisle roofs composed of a folded concrete slab.

photographs by H. de Burgh Galwey

1

The drawing below is a detail of the wall and roof construction of the church: at the bottom a section through the outside aisle wall, then through the outer wall of the central area, then through the upper roof and lantern. The photographs show the same walls and roofs from the outside in 2 and from the inside in 3.
4 (facing page) from the south-west. The entrance porch, with its inscribed roof-slab, is on the extreme left.



2

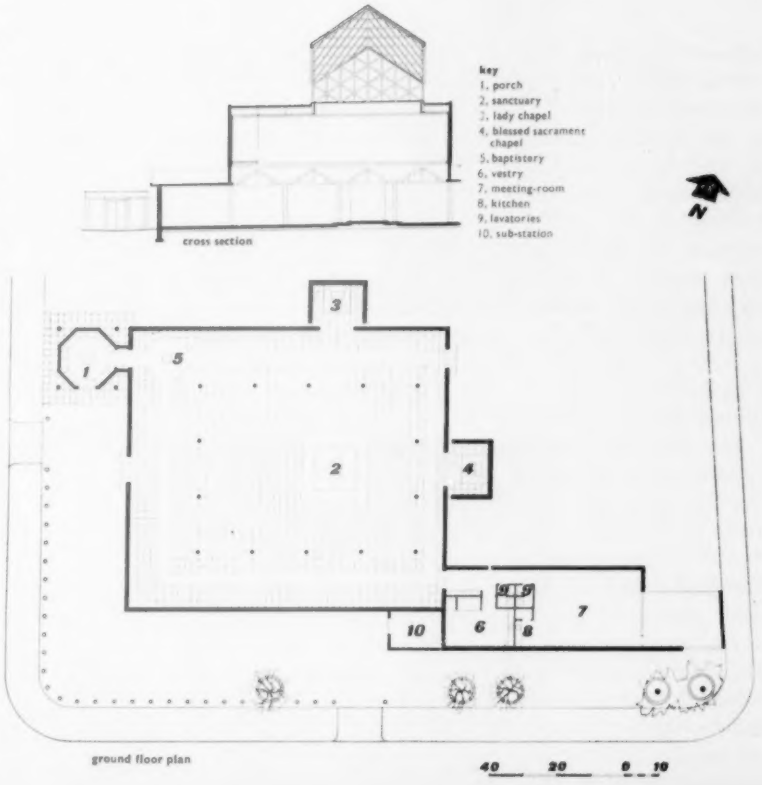
3

CHURCH AT BOW COMMON, LONDON

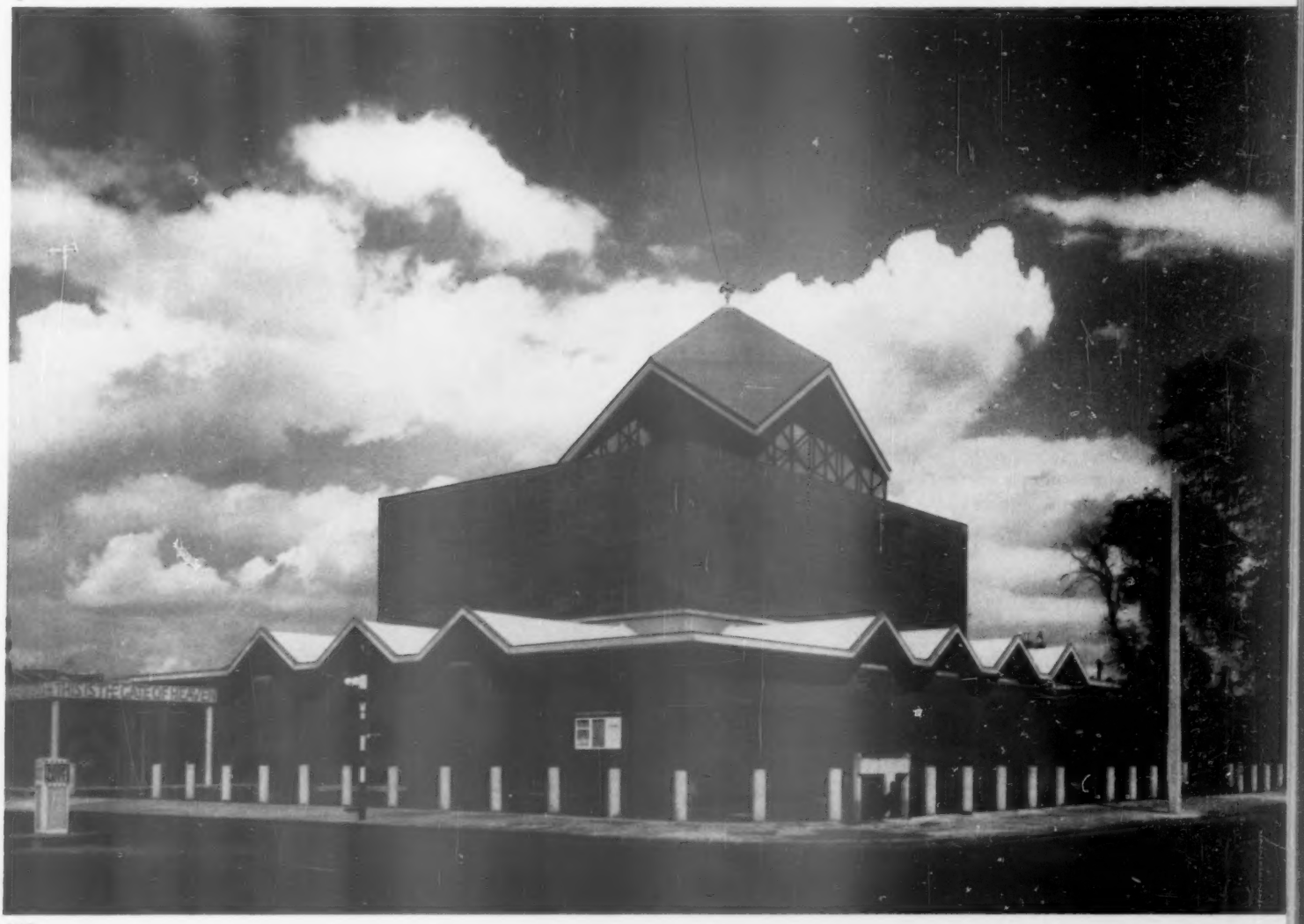
St. Paul's, Bow Common, is a parish church built on the site (in Burdett Road, Stepney) of a Victorian Gothic church destroyed in the war. It is within a LCC comprehensive development area, and most of the two- and three-storey terrace houses near the church are due to be redeveloped, in part by multi-storey flats, and the fact that the church will eventually be overtopped by neighbouring housing was borne in mind by the architect when determining its scale and character. The latter is designed to possess some of the toughness of traditional East End building and townscape.

The area across Burdett Road from the church will become a public open space and it is probable that St. Paul's Way (bounding the site on the south) will at this point be closed to traffic and remain as a paved pedestrian street. Later, a church school will be built to the east of the new church. Leopold Street, at present forming the eastern boundary, will then disappear. A new vicarage has also still to be built alongside the church, near the north-east corner.

The church is designed to suit the requirements of a parish that had already developed a strong liturgical



4



tradition and had experimented with various internal arrangements in two buildings which it had previously occupied temporarily. The whole shape and character of the interior, considered three-dimensionally, were evolved from the church's liturgical practice (see the introductory article on page 400); in particular the placing of the altar within the high central space beneath the lantern with seating on three sides of it. This seating is in the form of portable four-seater benches, which allow the arrangement to be varied. A small congregation can fill the central area and avoid a feeling of numerous seats being empty; larger congregations can expand into the surrounding, lower-ceilinged areas as required.

The free-standing sanctuary is defined by a hanging corona of black-painted rolled steel sections, bearing candles; also by a change in floor-texture from precast flags to white flint bricks. A path of similar bricks also marks a processional way round the perimeter of the building outside the columns that support the clerestory wall. The altar is raised on two steps, creating three levels corresponding to the hierarchic distinctions within the Anglican church, and the font is placed in its traditional symbolic position near the entrance used by the congregation. This is at the north-west corner, by way of an octagonal porch with a square roof resting on four external columns. There are also large sliding doors at the west, for the congregation leaving church and for wedding and other processions.

There are two small chapels (a Lady Chapel on the north side and another on the east), both outside the main liturgical space. An organ on the west clerestory wall will later replace the temporary instrument seen in 8 (page 405), but the console will remain in the position of the latter. The sacristy occupies a low wing projecting from the south-east corner of the building. This also contains a parish meeting-room with kitchen recess, lavatories and an electrical sub-station.

External walls are of load-bearing purple-grey Uxbridge flint bricks with recessed joints, laid in Monk bond which, with a 13½in. wall, provides continuous rectangular vertical spaces in the thickness of the wall. The rainwater drainage is contained in these spaces, so that no plumbing appears on the face of the building. The internal columns are 12in. diameter reinforced concrete, cast in cardboard tubes. The aisle roofs are also reinforced concrete, fairfaced from plywood shuttering in 4ft. squares. These conform to the 4ft. module on which the whole plan is based, enabling the 2ft. paving squares, for example, to meet the walls without cutting. The aisle roofs take the form of folded slabs 4in. thick, resting on a continuous concrete sill on top of the aisle wall, which also acts as a tie. The clerestory beam is an upstand from the aisle roofs, and consists of a series of linked double cantilevers. A groove in its upper surface takes electric cables with outlets to the nave light-fittings.

The nave roof has steel lattice-beams (a diagrid concrete structure was first chosen but steel was substituted in the belief that it would be more economical), and a timber ceiling faced with white-painted asbestos acoustic tiles. The roof covering is asphalt with marble chips and aluminium flashings. The lantern is of welded steel, painted dark blue and double glazed. It has a ceiling of wood-wool painted green and an aluminium-covered roof. Aisle windows are steel, also painted blue, with clear sheet glass. The porch has a frameless plate-glass strip between the brick walls and the concrete slab roof. Heating is by forced warm air from 16 electric heaters in eight pits sunk in the floor, each pit having an inlet and an outlet grille.

Consulting engineer: Richard Birch. Quantity surveyors: Fleetwood, Buss and Anns. Electrical and heating consultants: Peter Jay and Partners.

5, the entrance porch and west door; lettering by Ralph Beyer. 6, the south side of the church with the sacristy wing beyond.

5



6



CHURCH AT BOW COMMON, LONDON

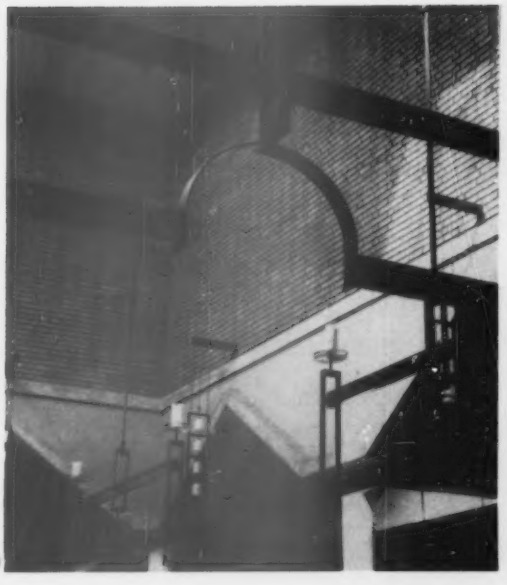


7. the high central portion of the interior crowned by a glazed lantern. The area of the sanctuary is defined by a hanging corona made from rolled steel sections, welded and bolted and painted black. It carries candle sconces of amethyst-coloured Venetian glass. The furniture is in afrormosia, with red hide cushions on the benches.



8





8, looking towards the sanctuary from the direction of the porch, with the font in the foreground. This was made from a standard 19-gallon industrial 'copper' cast into an octagonal block of concrete. Beyond the altar (frontal embroidered by Jessie Harrison) is the entrance to one of the chapels. 9, detail of aisle roof and light-fittings. 10, close-up of corona of rolled steel sections surrounding the sanctuary—see 7 above. 9 10



The promise of an heroic, functional and appropriate road-style implied by this sand-hopper tower is one of the most exciting aspects of the present programme of motor-way development. But is it a promise that will be fulfilled? The air-photograph of the Newport Pagnell service area on M1 (page 409) with its nondescript buildings and irresolute planning, suggests that the sand towers may well be disgraced by the service areas in which they stand, unless positive steps are taken to remedy a situation in which official drift and the chances of commerce threaten to produce their usual subtopian results. In the study of motor-way service areas which begins opposite, Raymond Spurrier discusses the problem at the levels of style, planning and legislation.

Raymond Spurrier

ROAD-STYLE ON THE MOTORWAY

This study of the service area problem is in three parts: the first, by Raymond Spurrier, considers the general problem of visual appropriateness in roadside structures; the second, also by Mr. Spurrier, beginning on p. 411, deals with service areas specifically; and the third presents a model service area (pp. 417–419) designed by Leonard Manasseh and Partners.

The current programme of motorway construction and major road improvements is perhaps the biggest step to be taken since the Romans gave us the basis for our present trunk road network. It is a step likely to have enormous visual consequences which could either perpetuate the present muddle we have grown used to and no doubt deserve, or it could set the highest standards that would eventually filter down to other roads and other places and help create a new awareness everywhere of what design is all about. For the road cannot be considered in isolation. It is not just a track for motorists; it is an all-embracing, all-penetrating network which together with the vehicles on it, the signs, the bridges, and the roadside ancillaries—whether we like it or not—is an integral part of our life and landscape.

Other forms of transportation have evolved an acceptable, comprehensive, and often delightful æsthetic which has grown out of their own particular functions; as a result, they manage to be compatible with their surroundings. The railways for example, built at a time of engineering innovation, set down some large-scale structures in the landscape which must have seemed at the time unlikely components for the native scene. Yet ruthless alignments and hard functional engineering have become embedded in small-scale scenery as easily as pretty wayside stations. The canals, too, with some exacting engineering limitations, covered the countryside with an intricate network that is a pleasure to look at; problems were tackled boldly and ingenious solutions found using indigenous materials to create exciting though functional forms entirely at home in the land or townscape. The nautical tradition, even older and more firmly established, maintains a sparkling visual style that is instinctively right, and in many ways an equally appropriate aeronautical tradition is evolving with the windsock giving way visually to the radar machine and those chequerboard-painted vans parked around perimeter tracks. Windsocks or buoys, radar grids or lighthouses, flags, railway signals, or the bright colours of canal boats—are all part of a clear, crisp, robust, almost gay visual vocabulary of clean colours and bold patterns that form decorative elements against a tough basic functionalism common to all forms of transport except motoring. And it is the motor habit which has wrought most havoc with the environment—no doubt because it has hitherto

been a footloose kind of activity. That was its early attraction: the open road, go where you like, stop where you like and when you like; no more fixed points of embarkation, no terminus. And as a long-term result nowhere to go because of universal subtopia and nowhere to park when you get there.

And so we are becoming increasingly aware of the need for a stronger discipline—the town and country planning discipline of recrystallizing a fragmented environment into a more logical, organized pattern with building and open uses sorted out in sensible contradistinction. The road network acting as articulator could thus help to restore a fair face to Britain as well as an even traffic flow.

It was a step in the right direction when a previous Minister of Transport, in promoting the motorway programme, restricted access and thereby the spawning of ancillary development along the new routes. Only essential services such as refuelling and refreshment are to be given access, and these, to quote official wording 'will be on sites specially set aside for the purpose which will be acquired by the MoTCA under s.10(i) of the Special Roads Act and leased to private operators on terms which will ensure the provision of facilities to specified standards.'

This is indeed progress. We are, by controls, accepting the position that was obvious in the eighteenth century and adopted by common consent then, of grouping staging facilities at sensible intervals. In the eighteenth century taste in building was such that the essential services were offered in modern buildings that have stood the test of time. Many of them are so meritorious as to be worthy of preservation and are so listed under s. 30 of the Town and Country Planning Act 1947—more than their successors the road house and the filling station of the thirties and forties are ever likely to achieve. Filling station design has improved since then because the major oil companies have seen to it; one of them has gone so far as to adopt a consistent design policy covering not only garages but product packs, vehicles, and all 'corporate visual activities' so that at least in a limited way some sort of appropriate motor car æsthetic is beginning to emerge.

But what is important now is whether the service areas on motorways will be as felicitous in design as they were in the stage coach era—a time when all kinds of objects, furniture, buildings, vehicles—as well as being embraced by a coherence of style—were informed by a common visual excellence. Will the service area at Watford Gap, M1 be as fine as Colnbrook village (1, 5) was on the old Bath Road; do the MoT 'specified standards' ensure this or is the specification limited in terms of ingress, egress, fire risk, fuel and ham roll throughput.

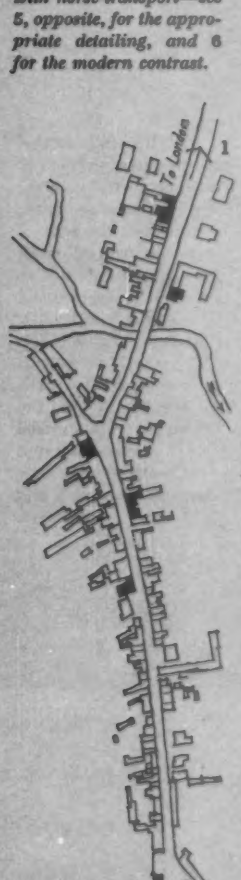
Good design is important, even for purely motoring reasons. It is not for the fun of it that shipping and flying have adopted measures that are æsthetically satisfying; crisp edges, clear colours, bold patterns, and unequivocal signals are vital in these more elemental modes of travel where there is so little room for error.

The margin of error is getting less and less on the crowded roads of today, and there is now only one answer to the confusion through which the driver must at present navigate: it is the guidance of a master eye trained in the art of arranging and organizing shape and colour and pattern—if not for beauty's sake, then at least for the sake of survival.

The road problem is visual no less than vehicular and the Minister of Transport

[Continued on page 411

1, *Colnbrook village, a staging-post for coaches on the Bath Road, surviving inns shown in solid black. Serial planning in time and tune with horse-transport—see 5, opposite, for the appropriate detailing, and 6 for the modern contrast.*



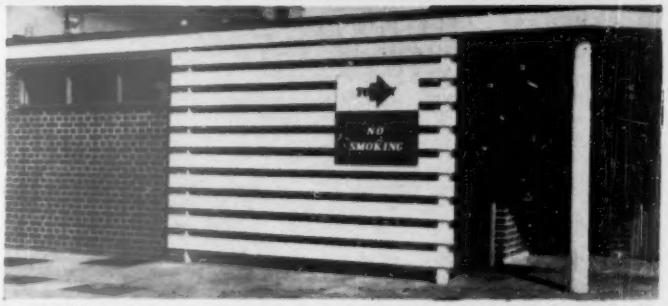
road-style



2

2, black and white paint-work—natural both to the functional tradition and to the countryside—combined with forms of a scale and shape appropriate to motorized transport.

3 and 4, overhaul of the design of filling stations, such as has followed the change-over to solus sites (selling only one brand of petrol) has shown how traditional vernacular usages can combine with the commercial need to create a clear brand-image, and make useful suggestions towards a developed road-style for the motorway.



3

4



5

5, traditional black-and-white road-style in Colnbrook village.

6, Newport Pagnell service area, on the M1, seen from the air. This view brings out only too clearly the disintegrative, centrifugal effect, completely out of harmony with the flow characteristics of motorway traffic, that stems from the use of radial planning of the type set out in Sir Owen Williams's first diagrammatic projects for service area layouts.



6

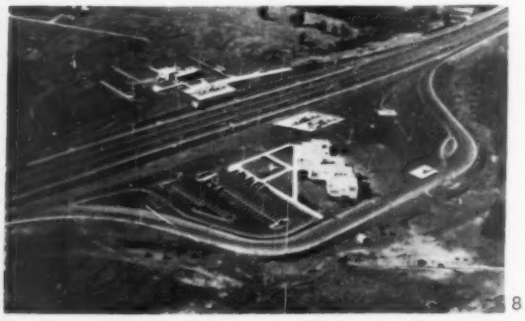


service areas



7

7, lakeside service area at Bad Reichenau on the Chiemsee (Munich-Austria Autobahn). Though a special case, this shows how the siting and design of a service area can exploit, even enhance, its natural setting. Something more positive than simply fitting-in may frequently be required.



8

8, an uninspired and inadequately landscaped service area on the Connecticut turnpike—ill-defined in form, exposed, and smudged off into its surroundings.

9, Pompano service area on the Sunshine State Parkway, Florida. The centrally placed service area becomes a major feature, because at least one carriageway will have to be curved around it, but this is service area design on a grand scale—another example from the same highway, giving an idea of the architecture and detailing involved, is seen in 19, p. 416.

9



Continued from page 406

should promote a comprehensive and positive design policy now. A good start could be made with motorway service areas which are a convenient microcosm of the whole question of roadside design. We might then, as a by-product, achieve a roadstyle vernacular, fitting for this half of the century. The result might be as functional as the railways and as pretty as the canals.

THE SERVICE-AREA PROBLEM

The comprehensive service areas that will soon be available at regular intervals along British motorways are new to this country, as indeed are the motorways themselves. Clearly there is a need for radical thought to be applied to their problems, firstly perhaps in terms of basic arithmetic. E.g. a vehicle consuming petrol at 20 miles/gallon from a 10-gallon tank will travel 200 miles between refuelling stations; a driver consuming food at say 3-hourly intervals and driving at 50 m.p.h. would expect restaurant facilities every 150 miles.

What follows is not a substitute for radical thought but an attempt to indicate a few fundamentals. It must be stressed though that the items set out under the four headings below are to a large extent interdependent and overlapping, variations of one causing modifications in another. Obvious perhaps—but is it obvious to the Ministry of Transport that different types of landscape require different types of layout and design? A service area in the Fens could be quite a visual event whereas too much of an event on the Ross Spur might be disastrous.

1. *SITING:* Under this heading come items which are part of a wider process—that of town and country planning (which must include road planning)—and include the basic decision of how far apart; the relationship with the normal road network and nearby settlements; the relationship with the landscape and its contents, e.g. houses, farm unit boundaries, hills and valleys, woods and open country. The existing town and country planning system can prevent bad siting and design; ideal siting is less likely unless county planners are given the opportunity to choose rather than comment on the already chosen.

What might be termed development requirements include: ease of acquisition, availability of main services, physical characteristics, suitability of contours. The recreational facilities of the lakeside obviously governed the choice of the site in 7 whereas the arrangement in 14 depends on the road being in a cutting, although one feels here that things have been done backwards: an artificial cutting has been contrived to bolster up a preconceived design.

2. *ARRANGEMENT:* Despite the rigid limiting factor of an unbreachable centre reservation facilities can be arranged in a number of ways without interrupting the free flow of twin carriageways. These illustrated diagrammatically, 10, 11, are:

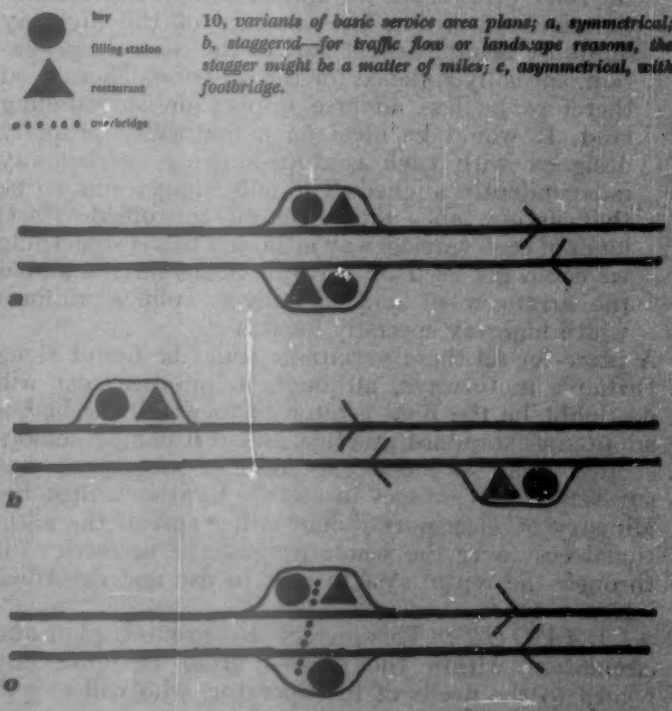
(*a*) twin areas, each self-contained,

(*b*) staggered areas, each self-contained

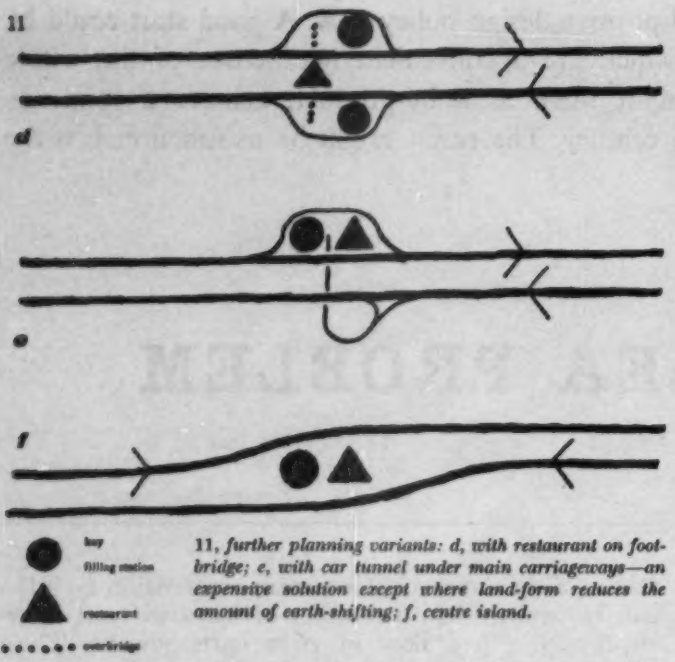
The pros and cons of each of these seem fairly evenly balanced; (*b*) is a smaller unit to absorb in the landscape and makes for easier siting, but if some disamenity is going to be caused it might as well be concentrated in (*a*) and thus more widely spaced.

If the two halves of (*a*) are run by the same operator some connecting link is desirable in the form of at least a pedestrian bridge or tunnel. This suggests:

(*c*) which is a twin area sharing one restaurant (as at Newport Pagnell)



10, *variants of basic service area plans; a, symmetrical; b, staggered—for traffic flow or landscape reasons, the stagger might be a matter of miles; c, asymmetrical, with footbridge.*



11, further planning variants: d, with restaurant on footbridge; e, with car tunnel under main carriageways—an expensive solution except where land-form reduces the amount of earth-shifting; f, centre island.

(*d*) is virtually the same as (*c*) but here the footbridge serves double duty as restaurant, 14, 16, 17.
This provides opportunities for exciting design as well as scope for confusion, especially at night.

(*e*) one single area on one side only, reached from the other by bridge or tunnel.
Against the obvious advantages must be offset the cost of land and construction for link roads which nevertheless, if cunningly designed, could serve a useful purpose in the process of deceleration.

(*f*) one single area between carriageways.
This seems on the face of it the best method of all. It allows an economic grouping of buildings and services, obviates the need for structures bridging the road, gives scope for unified design; the installation is kept within the confines of the highway limits by being in effect part of the central reservation, specially widened for the occasion. There need therefore be less adverse impact on surrounding land. It would be ideal on a motorway properly designed with each contour-hugging carriageway independently aligned. The only snag seems to be that access lanes must run off the offside (fast) lanes of each carriageway although this is something we could get used to; the Americans have adopted the arrangement and, moreover, split a uniform width highway specially for it, 9.

A place for all these variations could be found along Britain's motorways, although in practice cost will no doubt be the final arbiter as to which method is adopted as standard practice. But if it can be demonstrated that a more expensive arrangement has substantial advantages in certain locations, then the Ministry of Transport should either spread the additional cost over the whole programme or retrieve it through the rental system now in use and described later.

3. *LAYOUT:* This refers to ground plan and circulation within the service area. It must pay regard to the needs of the operator, who will expect easy working and economic maintenance, and those of the motorist, who will expect quick service, convenience, and a logical sequence, so that he will find himself in the place he wants to be. A few obvious points are: a decent view from the restaurant (this could be of traffic from the bridge, 15, but should not include petrol pumps or car park), separation of motor smells from kitchens and dining areas, segregation of pedestrian traffic from vehicular manoeuvring, adequate room to manoeuvre but no deserts of tarmac and windy spaces, 8, separation of lorry and bus park from private car park.

Many of these considerations will be taken care of if it is remembered that motoring is a means of progression; the dispersal patterns evident in a number of schemes might appear effective, but they are minimal attempts; the superiority of adopting a linear concept is demonstrated visually in 12, 13. Other advantages are: less of a bite into surrounding land, flow lines echo those of the predominant road, expansion if necessary later is easier and probably less damaging to the efficiency of the scheme.

4. *DESIGN:* Items under the preceding three headings will determine what sort of an element in the landscape the service area becomes even before it is designed in detail. The architecture of the place, right down to the design and placing, colour and texture of signs, oil cans, pumps, bollards, fences, lighting, paving, and—very important—the assimilation of the parked vehicle, will influence to a considerable extent the efficiency of the service and the pleasure in using the area.

As the motorway network spreads, journeys will become longer and service areas will be the only link with life that the traveller can enjoy without leaving the system. They will therefore have to take the place of the towns and villages that have hitherto provided contrast, relief, shelter, refreshment, and change of scale. Psychologically, and perhaps physically as well, their effect could be much the same as that experienced at a staging inn after a blustery day on top of a coach. There will be the opportunity to climb down from the cinerama views and get back to the human scale for an interval.

The first problem is therefore one of adjustment—how to reduce speed and stature. Deceleration lanes will be provided but something more effective than a GO SLOW sign is needed for reducing from 80 m.p.h., such as markings getting progressively closer, allied to a synchronized noise rhythm from expansion joints.

The next need is to be shown where the component parts lie without recourse to a multitude of signs. The self-revealing layout where alternatives are presented in sequence is likely to be the most effective. In this too a linear pattern would seem best. Refuelling should be a simple in and out process; anyone wanting more should find himself at the car park and then on foot to other facilities—and it should be clear from the design, which is motorist, and which pedestrian, territory.

Parking is a major architectural problem. The military camouflage method of dispersal under the trees (a genuine car *park*) is suitable for picnic areas,

but for the more conventional parking lot some other method of disguise is necessary. Earth banks might be one solution, depending on site contours; or a simple bold pattern of rail fences, etc., can unite many elements.

Having left his vehicle where he can find it again, the driver and his passengers will need to be led on to the other facilities and the art of townscape needs harnessing to this apparently simple task if there is to be any enjoyment from the stop.

Whether you get a seven-course meal from a suave waiter or a double-deck motorburger from a dusky girl in a frilly apron depends on the catering installed behind the architecture. There is room for a choice, but no place for gimmicky caterer's architecture, 22. Colour too is an important element. Black and white is a suitable basis for any colour scheme, and as abstract pattern it has long been acceptable in the countryside (half timbering, Friesian cattle). Broad expanses of colour should be low in tone—note the restfulness in 20. This leaves the way clear for bright colours to be used functionally in small doses—fire buckets, petrol brand images, telephone booths, doors; and on edge definitions where white then becomes a positive colour.

The great thing to remember is that the whole installation, despite its varying functions, should be designed as a piece with a definite shape and clean edges—no trailing off at the boundaries, 8; no insensitive lumping together of stock units surrounded by chain link fence; no after-thoughts.

Service areas are placed alongside motorways. They are also placed in the countryside. To which do they belong? The thatched garage of the thirties was presumably an attempt to belong to the countryside. The road too—any road, including a motorway—ought to belong, even though motorway scale is different. A motorway designed sensitively could both be itself and be embedded in the landscape. A service area could be part of both. It must look right from the road, from the landscape, and from within itself. The whole ensemble must have style—motorway style. Unfortunately this is something we haven't yet got in the sense that there is a canal style or a nautical style. But service areas, properly conceived, could help to bring such a thing into being.

The point has been made that each of the four considerations listed above—siting, arrangement, layout, design—are to some extent interdependent, which points to the need for the conception to be, ideally, in the hands of one controlling person, body, or team—or if this is not possible then for close liaison to be established between the designer and the promoting department, in this case the Ministry of Transport.

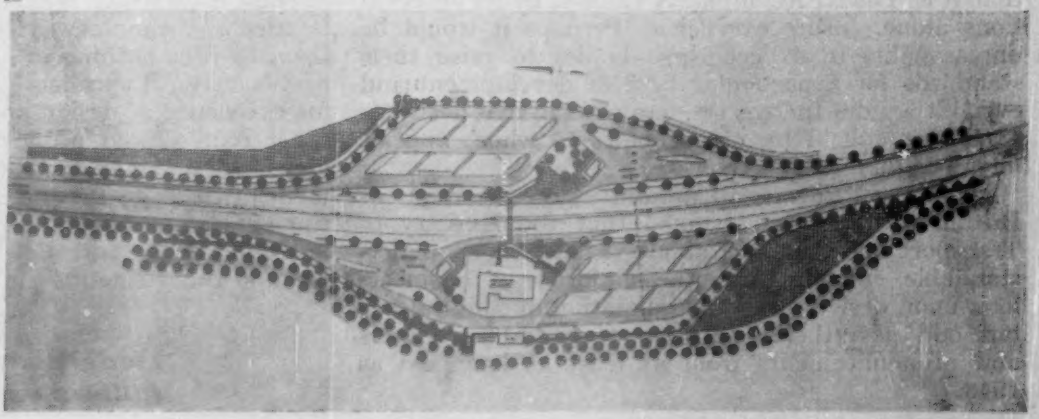
What happens at present is that the Ministry of Transport selects twin sites totalling about 11 acres at approximately 12-mile intervals. Limiting factors in this selection are flatness, availability of main services, agreement with the planning authority, and ease of acquisition (that is to say agreement is preferred to compulsory purchase).

Present policy on M1 is for a maintenance depot and police post (if necessary) at each site, with full scale service areas including petrol stations and catering establishments at alternate ones. These latter are offered in competition to concessionnaires. The successful competitor then enters into a building agreement with the Minister of Transport; the general effect of this agreement is to license the contractor to enter the land to erect filling stations and catering establishments at his own minimum cost of £50,000. The Minister, for his part, constructs to the developer's layout requirements certain roadworks, vehicle parks, and a footbridge spanning the motorway to join the two halves of the site; he then grants a 50-year lease to the contractor when the buildings are completed. The 50-year lease is at a fixed rent plus an additional rent based on a percentage of the gross takings from the filling stations and restaurants.

In inviting applications from potential concessionnaires, the Minister makes it clear that he will consider them in the light of the fixed rent offered, the percentage of the gross takings offered, and the merits of the layout. Not less than two brands of fuel and oil must be sold; details of these must also be submitted. The Minister then investigates the financial stability of the applicants, and considers the financial merits of the offers and the suitability of the site layouts submitted to a scale of 1/500, together with a note of the materials to be used in building.

Originally no other design details were submitted at this stage, and provided the layout was workable and the other considerations are satisfactory, the assessment was a financial one; the best financial offer was accepted although the highest offer was not automatically chosen. As a result of experience of M1 however, elevation drawings will be required in future, and

12



12, service area planning as a function of traffic-flow—a project, such as might be impracticable except on the flat lands of Holland, for a service area at s'Hertogenbosch. Vehicle movements are lucid and simple, involve no backing or sharp turns.

preliminary approval by the Ministry's landscape advisers, even before obtaining approvals from the Ministry's engineers and the local planning authority and the views of the Royal Fine Art Commission.

Such a procedure is no doubt democratic and fair to the applicants, the Ministry of Transport, the trade, the motoring public, and the public in general. It takes into account central and local planning, the rights of individuals and political implications. The latter for instance are no doubt the ruling factor in framing policy—in deciding whether service areas should be developed entirely by private enterprise, by the present method, or by the Ministry itself developing and leasing to individuals. It is presumably the deciding factor in creating one sort of monopoly (of site) whilst preventing another (of brand goods). It is unfortunate however that the process does not and cannot automatically ensure first-class design. Moreover it precludes the excellent design potential of the few oil companies that have troubled to think hard about the question.

In fact, design is barely mentioned in the conditions or contract documents. A procedure in which the main considerations still appear to be financial is the more likely to encourage mediocrity. The Minister has no sure way of getting anything better until he has fuller drawings to judge from. And the safeguards of official procedure are scarcely sufficient at a later stage. Most planning authorities, when faced with fuller details, would be unlikely to refuse consent to a scheme unless it was downright ugly or incompetent, otherwise the standard of design throughout the country would be better than it is. The RFAC similarly cannot, by its observations alone, ensure excellence. Perhaps it would be unreasonable to expect these bodies to raise their standards for a particular type of development and even if they did there is no guaranteeing that decisions would be upheld by other bodies to whom appeals might be directed.

From the evidence all around us on the roads of Britain it might be assumed that the Ministry of Transport does not care about visual design—understandable enough when the majority of engineers look upon design as the manipulation of slide rules—but odd nevertheless in view of official assurances and pronouncements from at least as long ago as 1943.

Of course, an awareness of the desirability of good design is one thing; the appreciation of what good design is, and how it can be ensured, is another. It might be more charitable, in the light of the few improvements that are evident, to look upon the present era as one of transition. Only time and Mr. Marples will prove whether this is right or wrong.

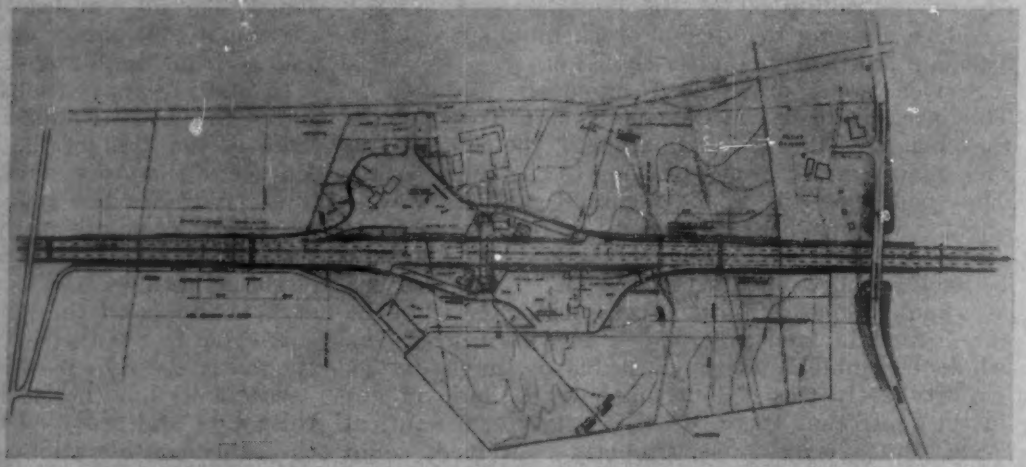
Good design is possible and has been achieved in Government departments where the initiative has come from within. Mr. Marples set an excellent precedent in the Post Office; our suggestions to him at the Ministry of Transport are therefore twofold:

1. to initiate good design and insist on getting it throughout the whole of the road programme, not just to hope for the best and put up with mediocre results.
2. to alter the tendering process for motorway service areas. This need not reduce the Treasury income. It need not be less democratic. It need not depart from the monopoly policies. There is no reason why it should not be just as efficient.

Here are three ways in which the process could be amended so as to shift the emphasis from money to architecture:

1. is to appoint top designers, develop, and lease to the best bidding concessionnaire.
2. is to hold architectural competitions and then proceed as above.
3. is to hold architectural competitions, the winner to proceed as at present but on the basis of a fixed rental (which could surely be assessed by the Ministry from experience already gained).

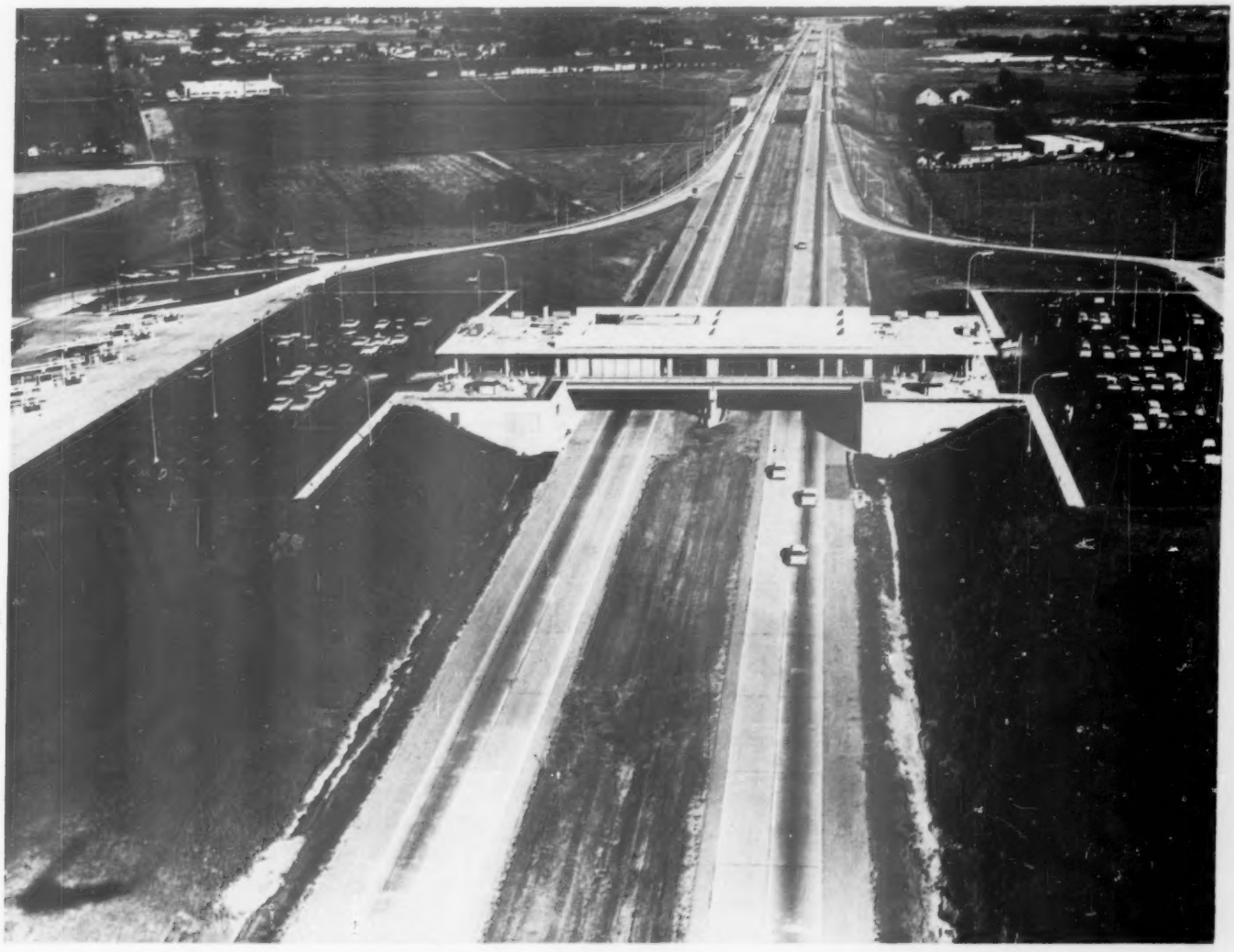
There is no reason why all these methods should not be tried as the motorway programme progresses. With them there is nothing to lose and everything to gain, particularly (*a*) excellence of design, (*b*) a reputation for excellence of design and (*c*) a yardstick by which other road design problems may be measured and which will set standards for the sorely needed enhancement of roadside environment. As the work proceeds there is no knowing what fresh ideas architects might not bring to the notice of highway engineers to assist them in their exacting and important task.



13

13, a less idealistic scheme than 12 (see previous page) at Firenzuola on the Autostrada del Sole, Italy. Flow is more complex, parked cars will have to back in or out of their bays (not unreasonable when they will stand for an hour or more during meals) but the layout is still related to the idea of forward flow.

model service area scheme follows on page 417



14

14, *overbridge restaurant—one of five—on the Illinois Tri-state and Northwest Tollway system. The building itself is commendably simple (contrast* 16 *and* 17, *right) and there is straightforward logic in its planwise relation to the car-parks and filling stations, but the amount of earth-moving involved in creating an artificial cutting in an embanked road, clearly needs exceptional justification.*

15, *view from the interior of a restaurant on the same Tollway system.*

15



service areas



16

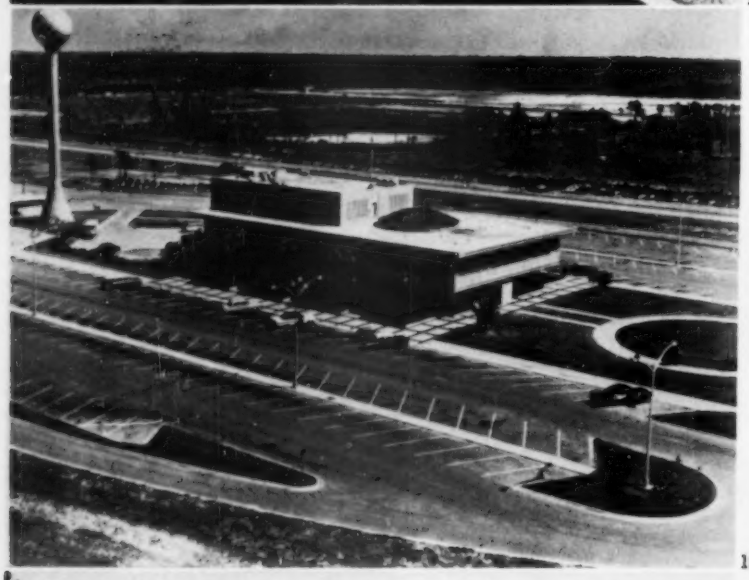
17

16, 17, *over-elaborate treatments of the overbridge theme, at* **Firenzuola**, 16, *on the* **Autostrada del Sole** (*an otherwise well laid-out site, see* 13, *opposite*) *and at* **Vinita**, 17, *on the* **Will Rogers Turnpike in Oklahoma**—*any structure spanning the carriageways should be an incident, not a distraction.*

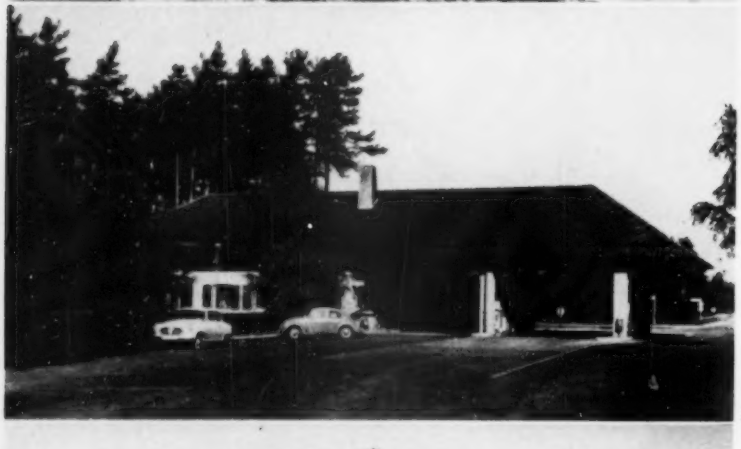
service areas



18



19



20



21

18, *clean, straightforward road-style in a service area at Allertal on the Hamburg-Hanover Autobahn. The two halves of the scheme are almost identical, but staggered, each being placed upstream of the other in relation to its own traffic lane—English readers should be on their guard for the consequences of driving on the right in judging all overseas examples.*



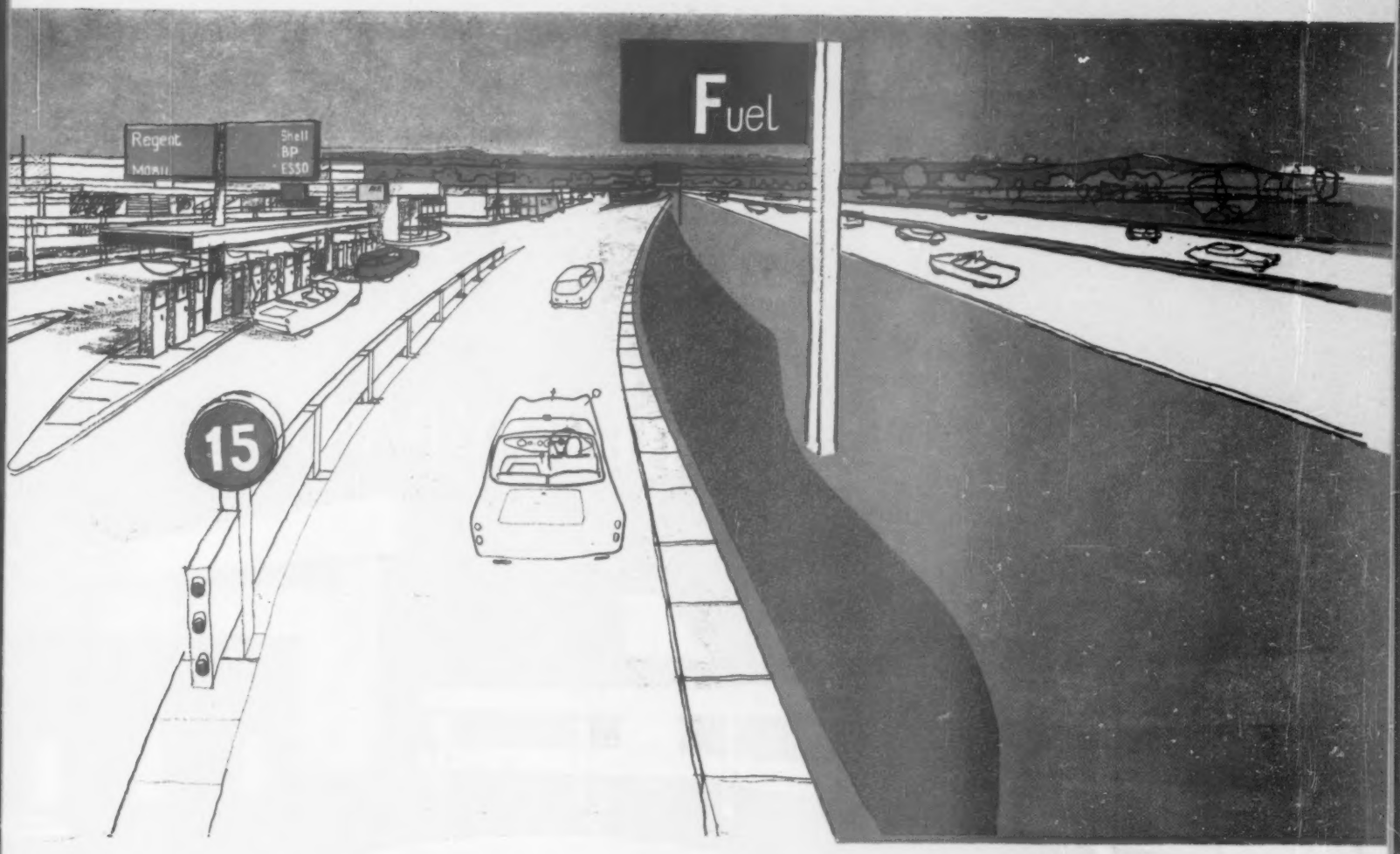
22

19, *more elaborate, but not fussy, treatment of a centre-island scheme at West Palm Beach on the Sunshine State Parkway—see also* 9, *p.* 410. *The ball-headed water-tower is an extremely apt skymark for such a motorway oasis.*

20, *alternative German treatment, a country-style intrusion on to the road, not vice-versa, at Feucht on the Munich-Berlin autobahn. The choice of style seems hardly appropriate to the motorway, but the general air of repose and calm is doubtless welcome.*

21, *though abused on gastronomic grounds, the* Ox in Flames *restaurant on the Farnborough by-pass, Kent, is one of the few acceptable roadside buildings erected in England recently, the reformed design-policies of some petrol companies always excepted.*

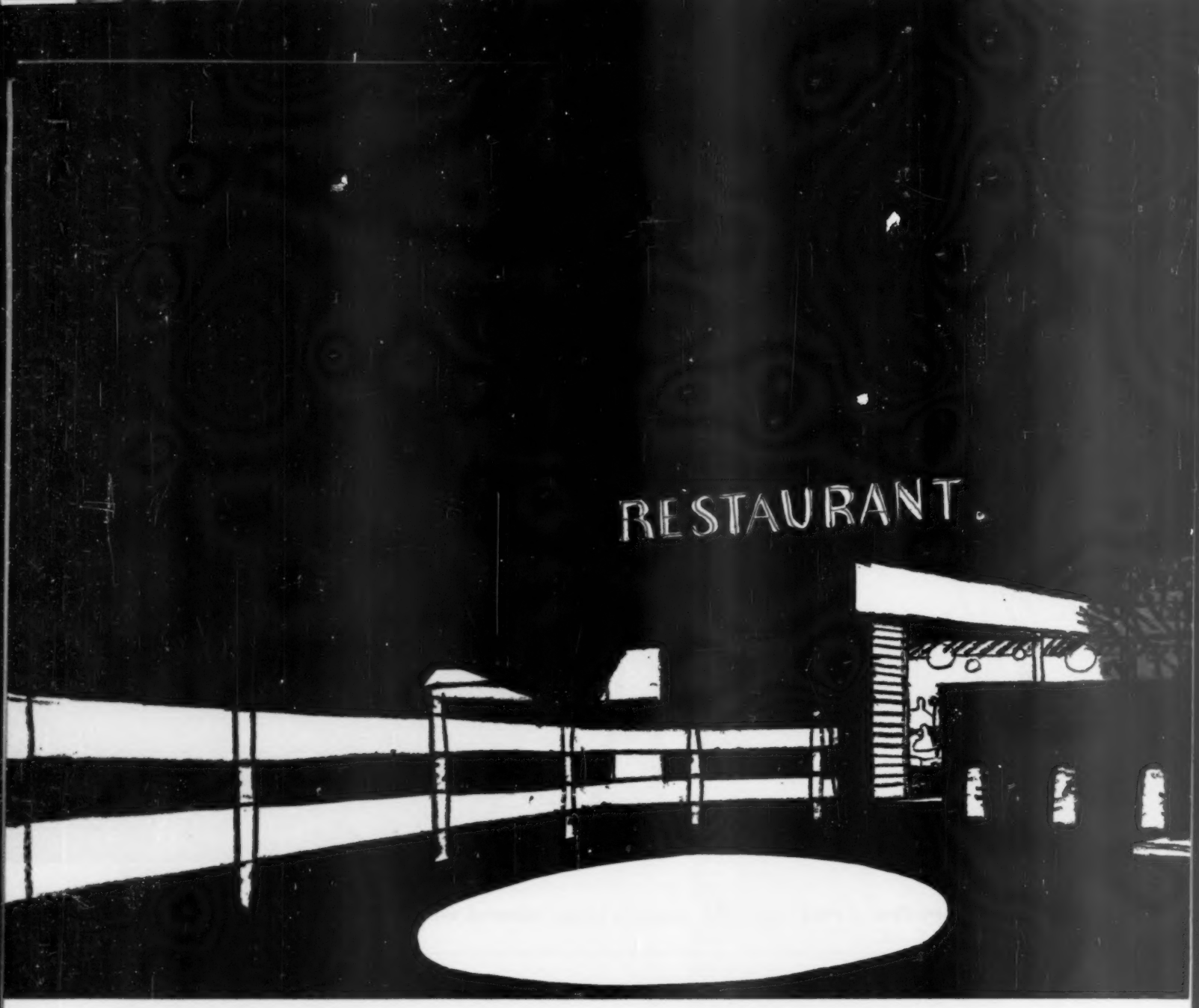
22, *decorators' frenzy at the Pavesi Autogrill at Bergamo on the Milan-Brescia autostrada—a tendency that needs to be checked if for no other reason than that it leads to dangerous distractions such as* 16, *p.* 415.



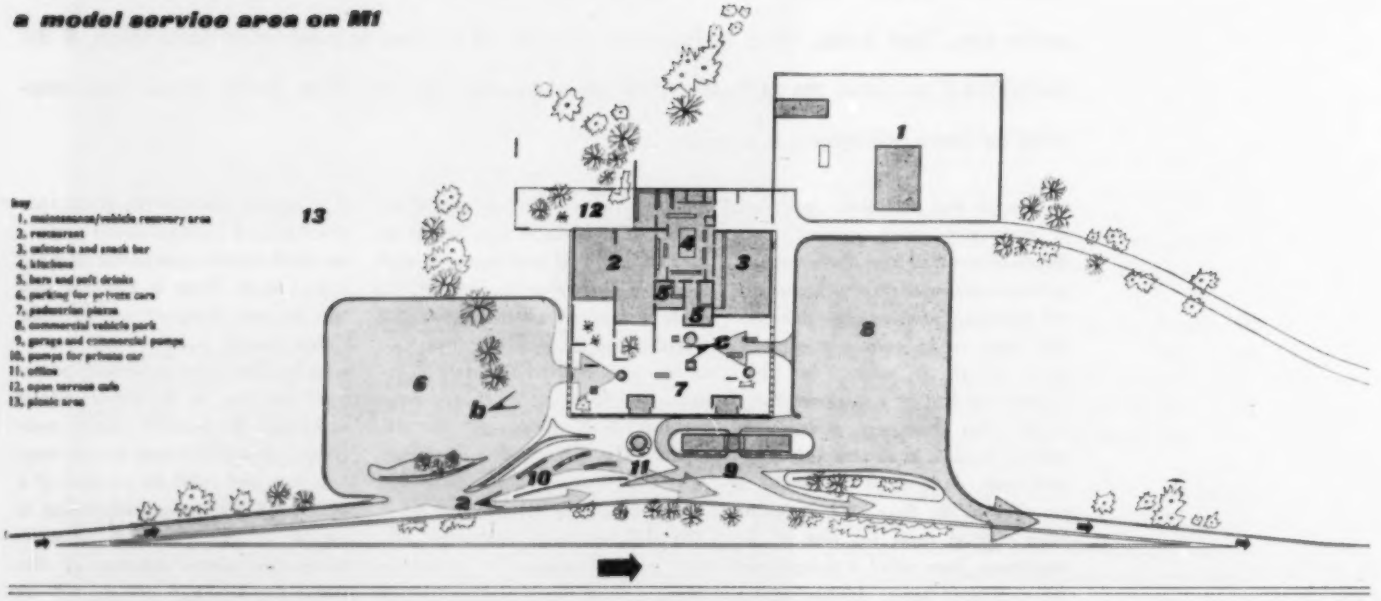
a model service area on M1 *project by Leonard Manasseh and Partners*

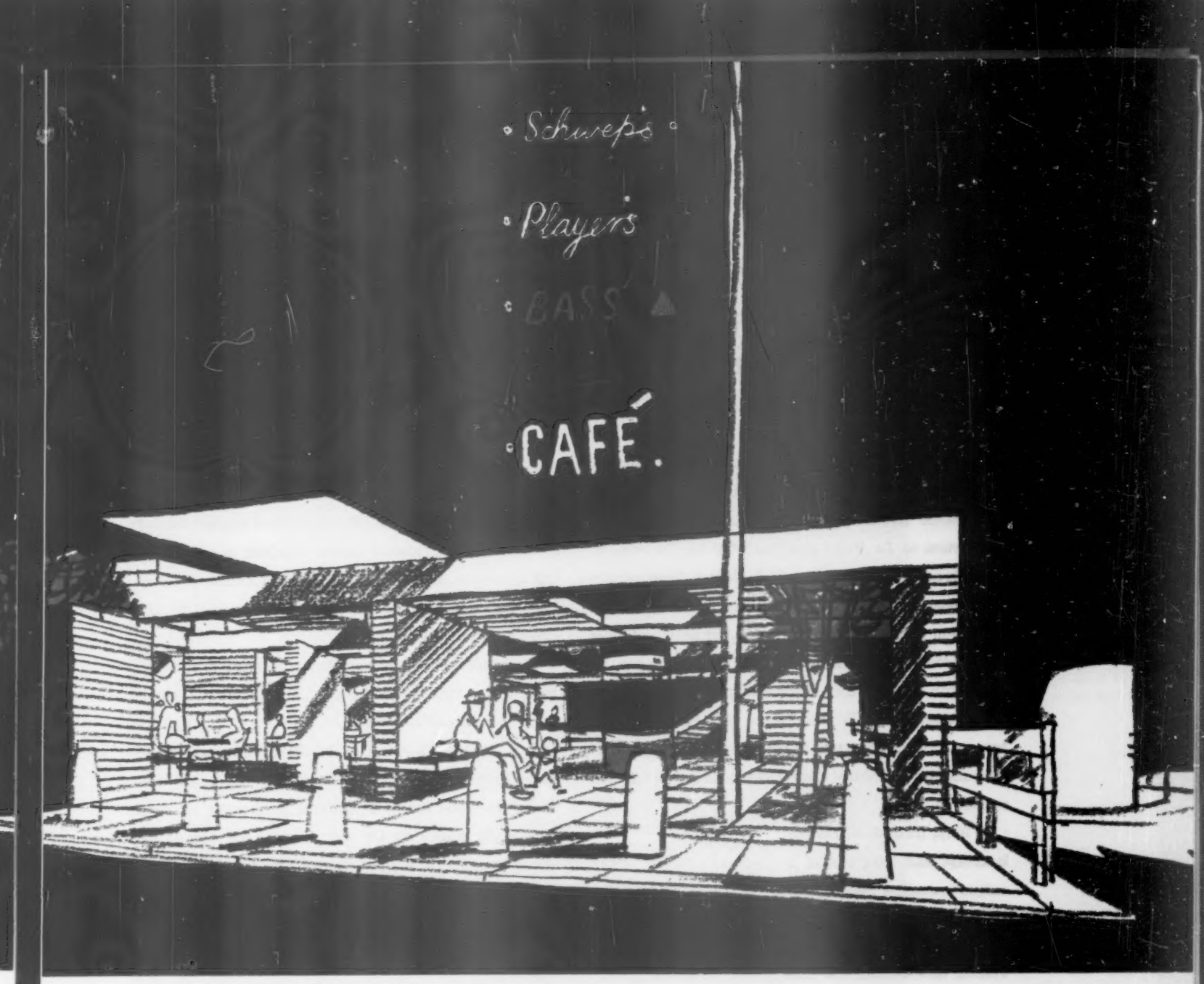
To illustrate and clarify the points made by Mr. Raymond Spurrier in his article on the preceding pages, the Editors of the *Review* commissioned Messrs. Leonard Manasseh and Partners to design a model motor-way service area. Their design, which is illustrated herewith and overleaf, is based on an examination of the possibilities of an actual site on Britain's first large-scale motor-way, M1. This site has already been designated for future development as a service area.

It was felt that a realistic appraisal of motor-way needs, arising from distances travelled from likely starting points, made insistence on symmetrical planning unnecessary—this service area serves only one carriage way, though it might, in time, become one half of a staggered pair; in the plan, over page, it is shown only in relation to its own half of the motorway. Seen above (viewpoint a on plan) is the loop road, deviating only slightly from the line of the motorway, from which it is separated by a grassed bank. Filling station services are provided on subsidiary loops, all planned to give as far as possible easy and continuous through flow. The parking areas, however, are pools of separate circulation outside this flow system, and separated from it by distinctive fencing (see over). Between the two parking areas (private and commercial) is the restaurant and its ancillary facilities, to which drivers have pedestrian access without crossing traffic lanes. The buildings for the restaurant, etc., are grouped around a pedestrian piazza (illustrated over page) and are of a simple load-bearing brick construction with built-up timber roofs—the small numbers and varied siting of service areas make it unlikely that any purpose designed prefabricated system would justify itself economically. The most promising structural solution is to use available materials—if possible, local materials—in a direct and simple way, to extend and fulfil the promise of a vital roadstyle already beginning to appear in other roadside constructions. See pages 406–409 of Mr. Spurrier's article.



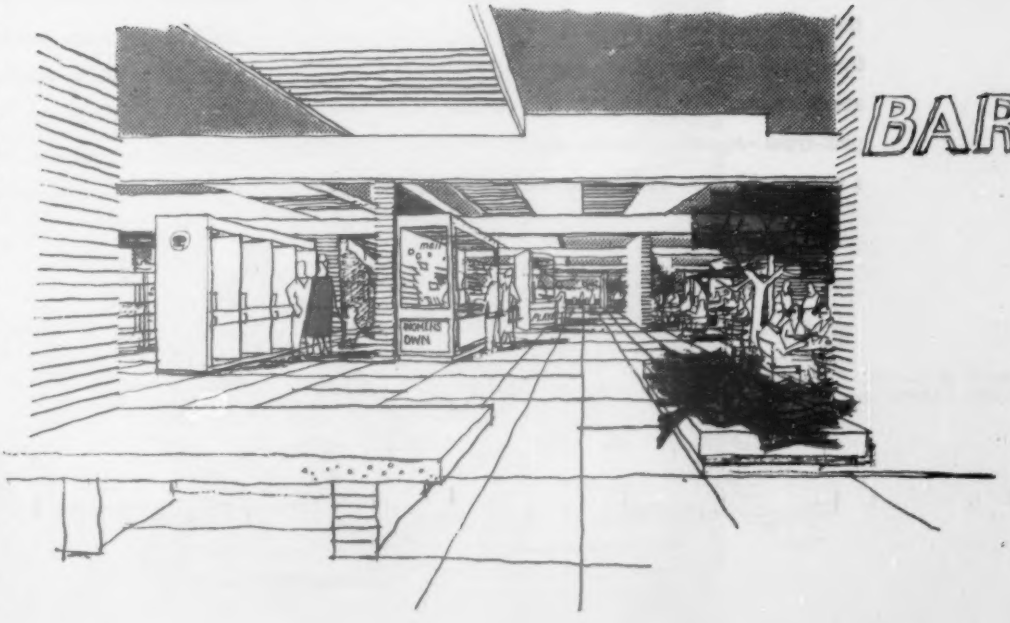
a model service area on M1





Above, a night view of the piazza and buildings from the private car park (viewpoint **b** *on plan on facing page). The parking area is fenced by the rugged wooden fence seen on the left, while car and pedestrian areas are separated by a kerb and bollards. Within the partially roofed piazza there are free-standing kiosks, etc., for papers, tobacco, while the main restaurant lies at the back, behind the screen walls that provide shelter, a feeling of having come to rest, without too much enclosure.*

Right, looking through the piazza from the commercial park side (viewpoint **c**). *The piazza is an environment in itself, not just a space at the side of the motorway, and concentrates in itself nearly all the non-motorized activities of the service area.*



LA VALLE DEI TRULLI

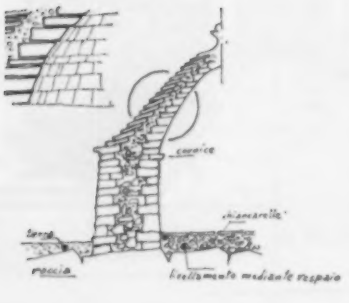
A trullo is a method of construction, not a type of building, nor, strictly, anything more particular than a family of architectonic forms. As Leonardo Sinisgalli says in his introduction to *La Valle dei Trulli** it can be cubic or parabolic or cylindrical or spheroidal. *Costruzione a trullo* is a technique—found in various parts of the world at different epochs—in which thick walls, composed of inner and outer faces of stone with earth between, are capped with pseudo-vaults with an inner, corbelling structure and an outer skin of flat stones laid like tiles, again with earth or rubble between. This construction is shown in, 1 (below), one of three sketches reproduced herewith from the Italian book just referred to.



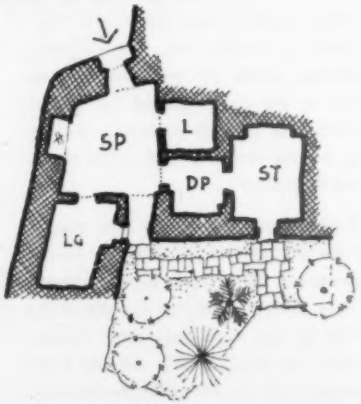
In Italy, *trulli* dominate the landscape and have created a unique townscape most noticeably in the area around Locorotonda, Alberobello and Martina Franca, between Bari and Taranto, at the top of the 'heel' of the southern peninsulas. There, the system of construction has elaborated into a complete architecture, an unwritten rule-book that gives standard plan-types—square or circular outside, but almost invariably a square with apses or alcoves within—standard sections—a cistern below, a granary above, 2—standard elevational treatments—whitewashed stone—standard patterns of floor-stones, standard finials to the *trulli*, standard symbols painted on the outer tiles, standard ways of attaching one structural unit to another, 3, so that the way in which a house is related to its outbuildings is the way in which towns build up and streetscapes are developed.

The result is a vernacular that borders on a universal style, with a visual character as pronounced as that of the vaulted vernacular of Santorin (*Exploring Eye*, AR, December, 1958). It has attracted, inevitably, the attentions of numerous photographers, but Mimmo Castellano, who took the pictures that appear on the next three pages, has been particularly praised for the way in which his work brings out the special architectural flavour of the *trulli*. It has also attracted the attention of the Italian authorities, but whether in time, or in the right way, is difficult to say. As with all such vernaculars, its future is threatened, and the preservation of the Rione del Monte in Alberobello, 9 (page 422) as a national monument is the least that any government could do. The structural technique is still used, but often to roof buildings that are nothing to do with the vernacular, and one hopes that it will not require some natural disaster, as at Santorin, to revitalize this unique architecture.

*By Mimmo Castellano, Leonardo da Vinci Editrice, Bari.











4, the classic free-standing *trullo*, with its massive walls giving protection from heat and cold, but here enriched with external stairs for access to ledges for drying fruits and vegetables.

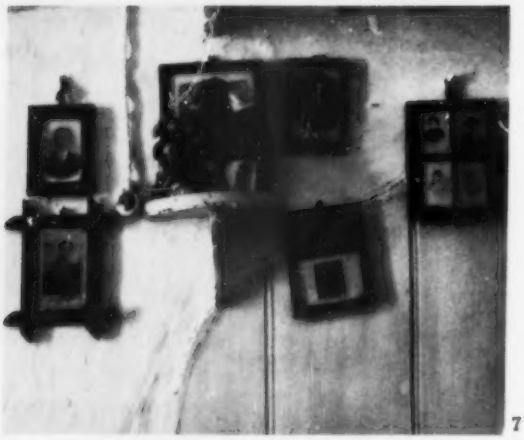
5, suburban street in Alberobello, where the classic *trullo* form begins to adapt itself to problems of urbar neighbourliness.



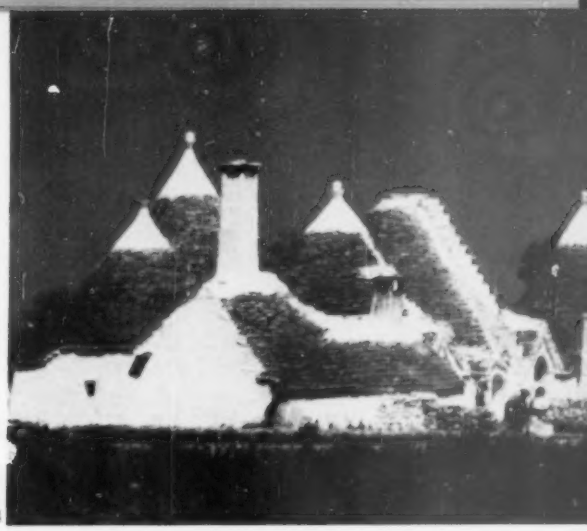
Photographs on this and the following pages by Mimmo Castellano, from La Valle Dei Trulli.



6



7

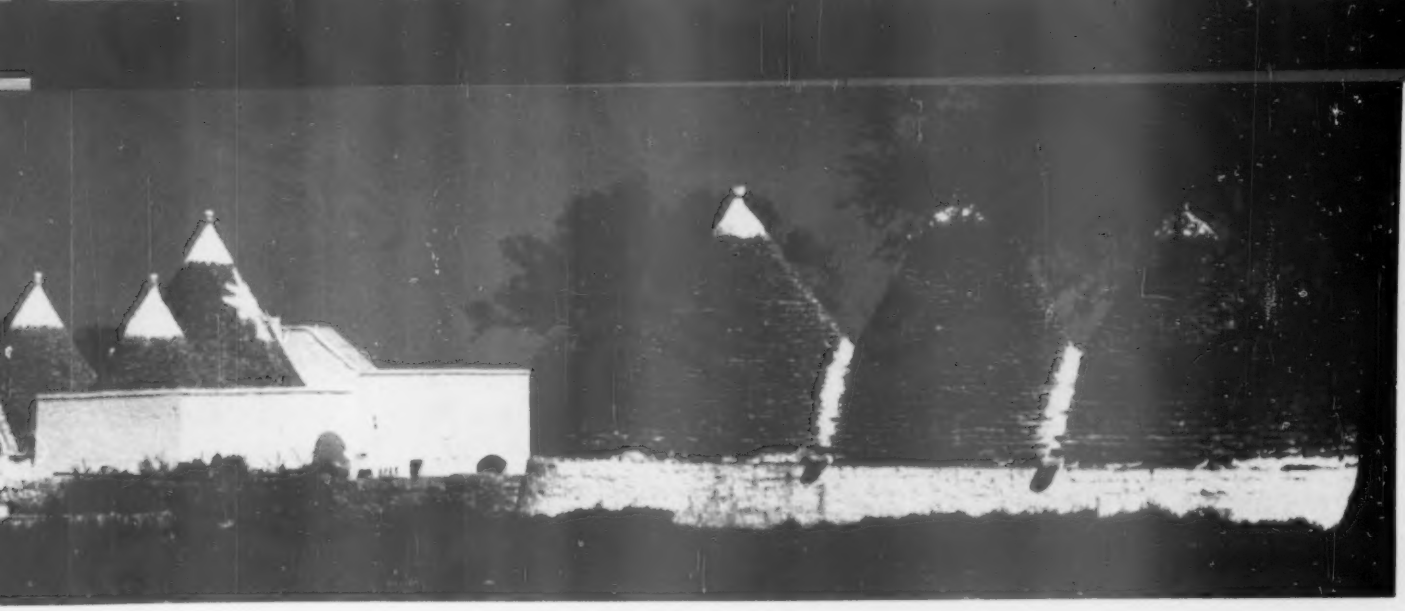


8



9

6, urbanity in Martina Franca—at first sight the generalized town vernacular of the Mediterranean, but with a certain massiveness of the *trullo* showing through.
7, religious and family images in an interior in Alberobello; together with the straggling electrical conduit, they give a fairly accurate estimate of the technical and cultural condition of the Alberobellans, balanced between the old and the new.
8, the beginnings of *trullo* agglomeration, a patriarchal cluster near Castellana: family history in stone, building types with their characteristic methods of grouping built into their very structure.
9, the *trullo*-city, an air view of the Rione del Monte area of Alberobello, with the adaptability of the *trullo* structure still not exhausted by the need to accommodate itself to a fairly regular urban street pattern. The area has, justifiably, been scheduled as a monument of national interest.





PALACE IN THE PERSIAN GULF

ARCHITECTS | **FARMER AND DARK (partner in charge, John Barton)**

Traditionally, palaces were the pace-setters of domestic architecture. The architect of the palace might build subsidiary houses, masons might pirate his details, guests from the palace might be inspired, perhaps, to commission work from the architect or his imitators. But now, the only patrons who can afford to commission a palace from a British architect are the oil-rich rulers of the Middle East, and the rest of the architect's clientele will see the work only in magazine publications such as appear on the following pages, while their own conditions of life make it unlikely that they will ever commission similar work from him. A palace thus becomes a work of absolute uniqueness—unique opportunity in any architect's career, unique in that it is unlikely to have significant influence on other buildings, unique in the conditions that caused its erection. The only other newly-built palaces that have been illustrated in the AR in the last thirty years are the President's palace at Brasilia, and Prince Akihito's in Japan, neither of which is comparable to this one.

2





1

1. distant view from the north-east. 2 (opposite page). the guests' wing from the west. The balcony grilles are of blue anodized aluminium ; the teak shutters slide back in the winter. 3. the main courtyard from the west, with the entrance porch on the left and the servants' entrance on the right.

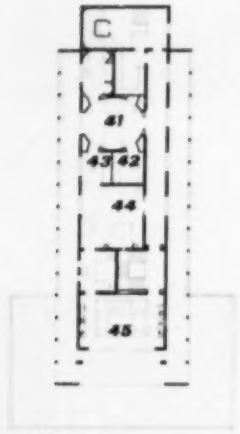
3

PALACE IN THE PERSIAN GULF

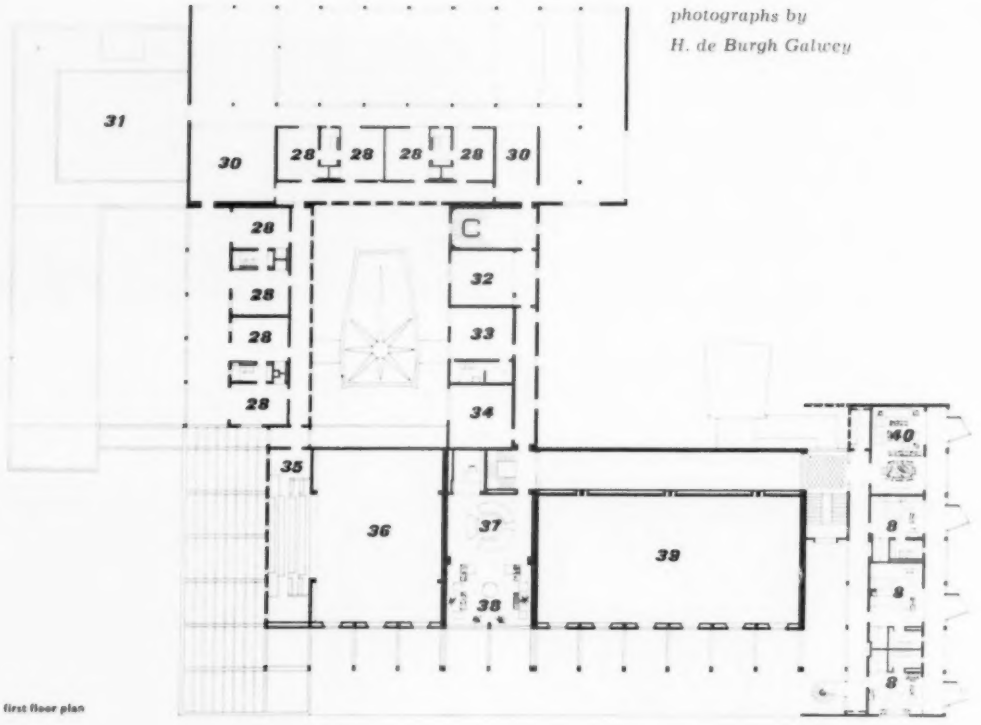


4. the harem wing and garden from the south-east.

photographs by
H. de Burgh Galwey

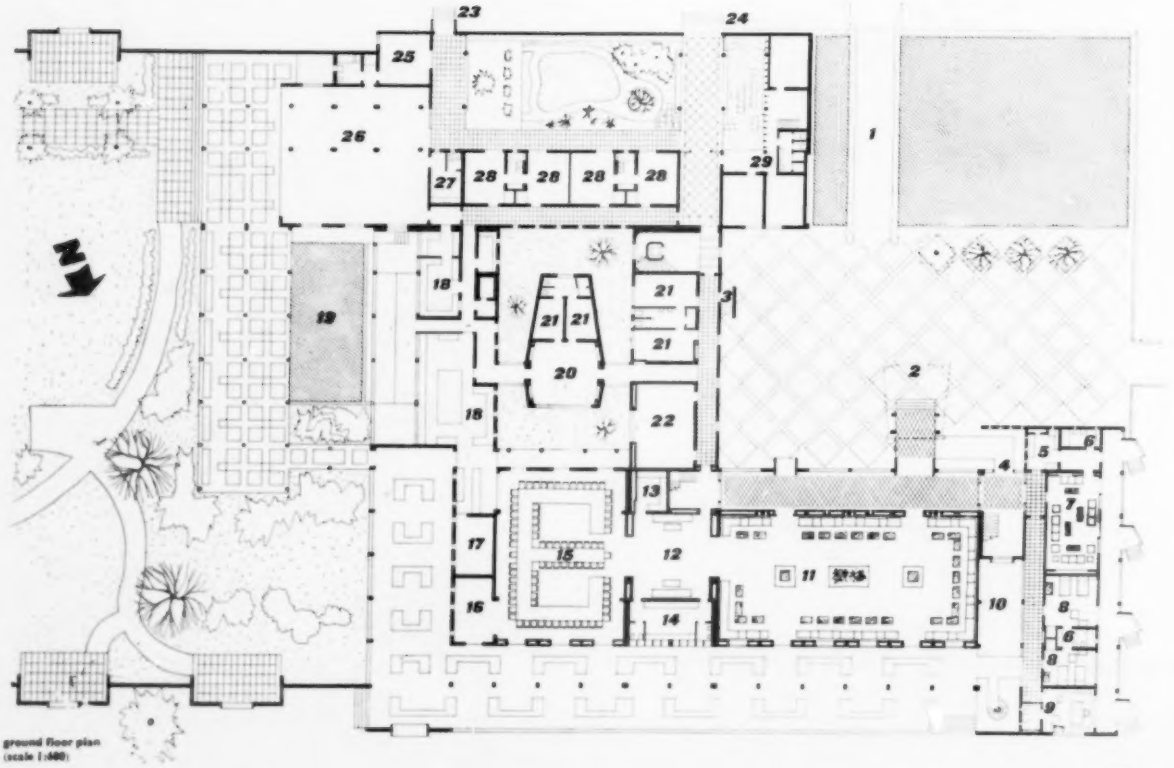


second floor plan

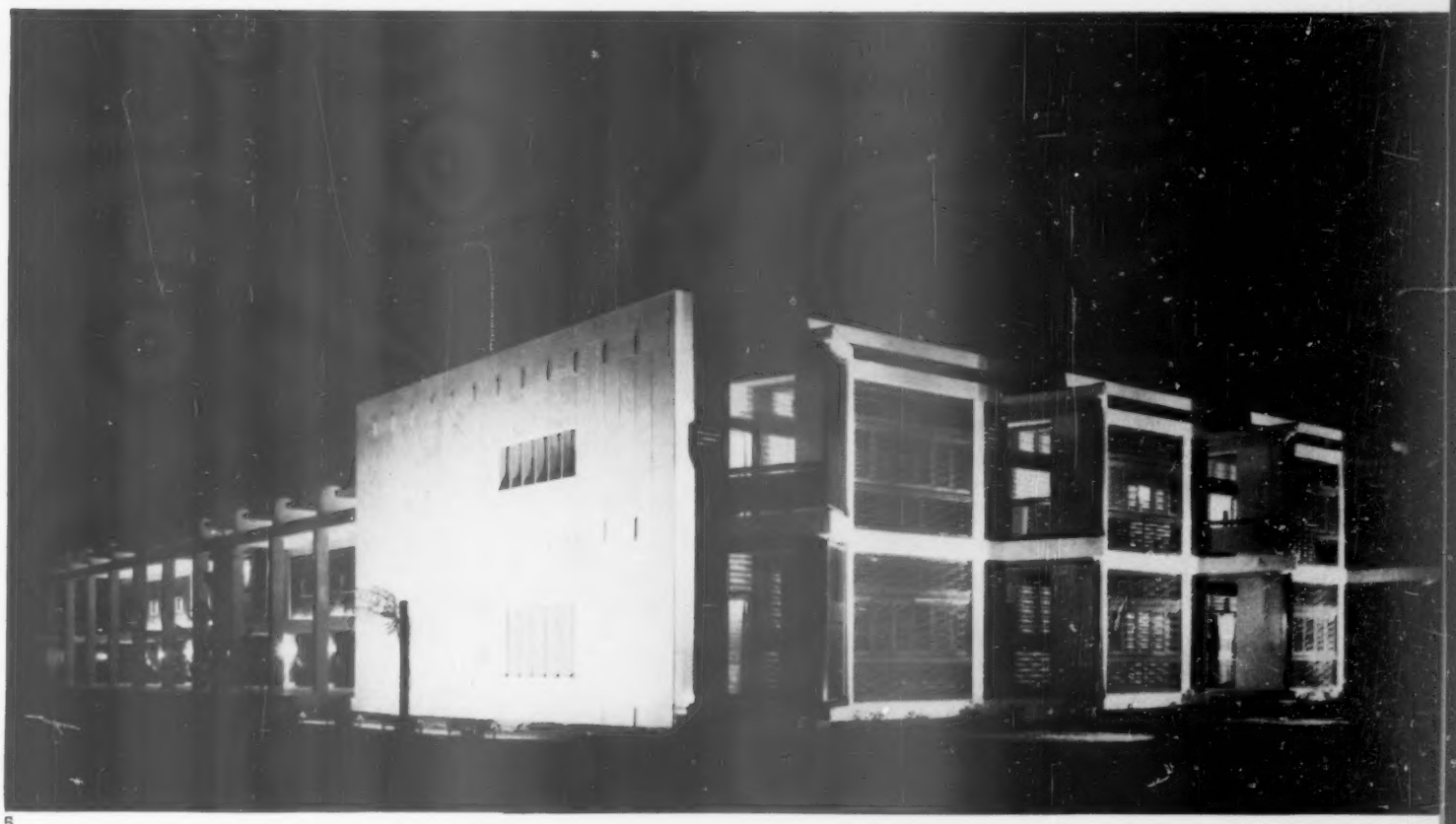


first floor plan

key
1. bridge.
2. entrance porch.
3. servants' entrance.
4. guests' entrance.
5. guests' kitchen.
6. guests' bathroom.
7. guests' reception.
8. guests' bedrooms.
9. office.
10. patio.
11. salon.
12. ante room.
13. coffee kitchen.
14. wash room.
15. banqueting room.
16. furniture store.
17. projection room.
18. kitchens.
19. swimming pool.
20. servants' dining room.
21. servants' bedrooms.
22. servants' sitting room.
23. entertaining entrance.
24. harem entrance.
25. reception.
26. sheikh's dining and sitting room.
27. wash room.
28. bedrooms.
29. family servants.
30. sitting rooms.
31. sleeping decks.
32. air-conditioning plant.
33. oriental sitting room.
34. radio room.
35. cinema balcony.
36. upper part of banqueting room.
37. office.
38. winter garden.
39. upper part of salon.
40. guests' living room.
41. sheikh's bedroom.
42. sheikh's dressing room.
43. sheikh's dressing room.
44. sheikh's bedroom.
45. sheikh's sitting room.



ground floor plan
(scale 1:480)



5

5, the guests' wing from the north-west at night.
6, the main entrance courtyard from the west with the guests' wing on the left. The paraboloid roofs of the three-storey main block house a water tank at low level ; the upper part is hollow, lined with mosaic, and is floodlit at night.



6

The site, an isolated one in the desert, is a small hill which had been previously levelled, providing a plateau about 25ft. high above the surrounding land. The slopes of the hill have been terraced and planted with a large number of trees and shrubs to relieve the aridity of the surrounding landscape. The gardens are watered from a half-million gallon reservoir, sunk in the terracing. The terrace walls are of black aggregate facing blocks, forming a dark plinth to the polychromatic facades of the building above.

Cars visiting the site pass a gatehouse and control point at the foot of the hill and enter through electrically operated gates. The road ramps up below the north front and swings round into the main entrance court.

The building is planned in accordance with the traditional way of life, the women's quarters being separated from the men's. The 'harem' (or family quarters) is in the south and east wings, with its own entrance, screened from view and looking on to a patio and the main harem garden. In deference to purdah, service access to the kitchens is through a tunnel under the garden from the service block at its east end, where bulk supplies are kept. This block also contains servants' quarters, air-conditioning plant, garages and quarters for livestock.

The 'public' entrance to the building is on the south side, through a courtyard approached by a bridge over a large pool. This contains four large fountains designed to give a feeling of coolness to the courtyard. From here an entrance gallery gives on to the reception suite consisting of a large salon, ante-room and dining-hall, which is also used as a cinema. In the west wing are guest bedrooms with bathrooms en suite and living-rooms for the use of the Sheikh's male guests. The central three-storey block links the two main sides of the building and contains, on the top floor, the Sheikh's personal rooms (from which he can reach all parts of the building) as well as personal servants' and guard rooms. In general, to suit the climate and the way of life, the rooms are laid out in a cellular and somewhat formal manner.

To the west of the main building is a prayer room and quarters to house visiting Bedouin followers of the Sheikh.

The extremity of the climate (this area of the Middle East has an ambient temperature range of 150°F.) and

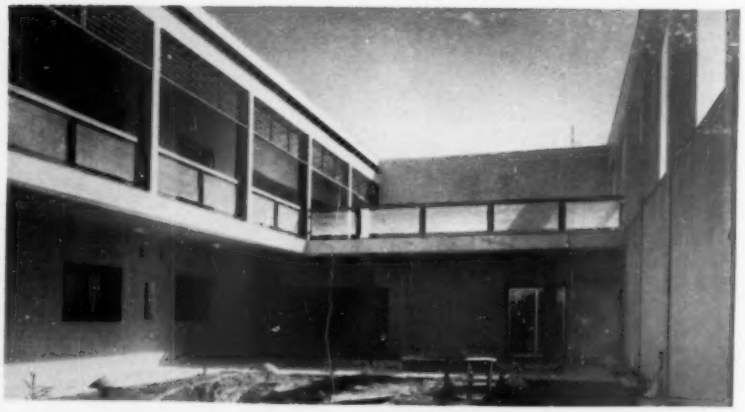
the corrosive action of blown sand posed considerable problems. Cooling is required during six months of the year, but for a short time in the winter the weather can be very cold. The building is therefore fully air-conditioned, and this has made possible the use, contrary to traditional local practice, of large full-height windows in all habitable rooms, enabling the verandahs to be used in the few temperate months. Relatively large windows are in fact needed in the winter when the sky is overcast. Care has been taken, however, by using teak and anodised aluminium louvres, to prevent sun (excepting the low-angle winter rays) from touching the windows. The louvres have been fretted and pierced in various ways to give shadow relief externally and to cast sunlight patterns on the floors internally when the sun angle is low. To break the sun heat on the ceilings, all blocks of the buildings have double concrete roofs with a minimum of 12in. air space between, open to the air.

The more important elements of the building have upper roofs arched and paraboloid in form. The soffits are lined with coloured mosaic and floodlit from the inside at night. In an area still in process of industrialisation it was especially difficult to achieve the required feeling of opulence with relatively unskilled labour. It was necessary to avoid elaborate detail and to allow great tolerances in all finishes. Great structural dexterity is not possible and therefore the building has been designed with a simple reinforced concrete frame filled in with concrete blockwork and applied finishes.

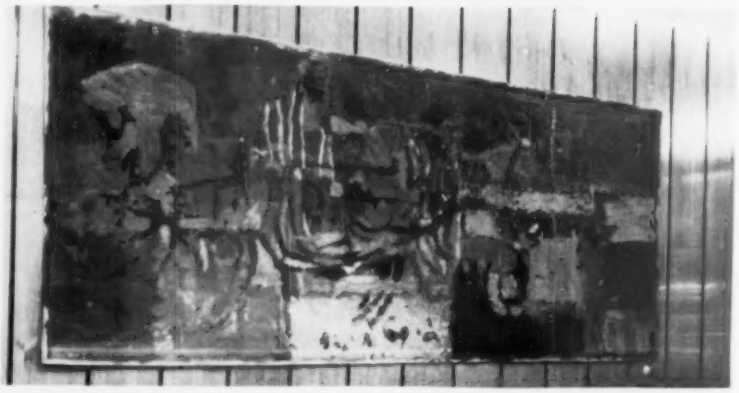
The sophistication of 'beton brut' is not appreciated in the Gulf, where a prosperous economy merely regards it as a sign of poverty. Further, due to the strong sun and the corrosive effect of salt-laden sand, only the most permanent finishes have a chance of survival. Therefore hard finishes incorporating permanent colour which have been traditionally used in the Orient for important buildings—ceramic tile, mosaic, marble—were used extensively.

The building is predominantly faced in white granitello marble with infilling panels in scarlet, grey and blue relief tiles. Only the strongest colours register in this light and provide the necessary contrast to the monochromatic grey-brown landscape. Balcony balustrade panels are of coloured armoured glass. Subframes, doors and sun louvres are generally teak. The curved roofs are finished in copper.

The site architect was Gordon Jones. Assistant architects: A. J. Reid, M. J. Russ, P. K. Khaw, D. Armstrong, J. Lidster and H. Schwab.



7



8



9

PALACE IN THE PERSIAN GULF



10

7, the harem courtyard; balustrades are of teak with coloured armoured glass. 8, 'marine study,' a tapestry by Geoffrey Clarke in the main salon. The walls are panelled in teak with black anodized channel strips inset. 9, the covered terrace on the north side of the main salon. The vault soffits are of blue mosaic and the wall is of orange and grey patterned tiles. The sliding teak grilles conceal the french doors of the main salon. 10, a garden house of black and white glass mosaic.

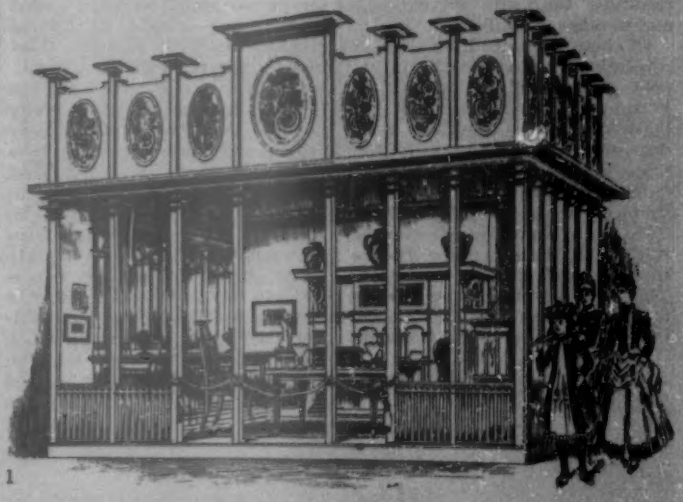
EDWARD POND

MACKMURDO GLEANINGS

The results of Professor Pevsner's pioneer paper on Arthur H. Mackmurdo, published in THE ARCHITECTURAL REVIEW, vol. 83, 1938, have been taken over fully by recent literature,* but have not been added to. The intention of this article, based on a thesis for the Royal College of Art, is no more than to contribute information on certain points.

Mackmurdo, it will be remembered, was born in 1851. Beyond what Professor Pevsner has written it must be recorded that his mother was a Carte—hence his connexions with D'Oyly Carte and the Savoy Hotel—that he went to Felsted School, and, after about one year with T. Chatfield Clarke, to Oxford, where he was not attached to any college and underwent the influence of Ruskin whom he knew personally and with whom he travelled in Italy in 1874. He had meanwhile exchanged Brooks's for Chatfield Clarke's office, but set up in practice on his own in 1875.

His two earliest houses, both illustrated by Professor Pevsner, were built at Enfield. Their addresses were unknown to Professor Pevsner, nor was he aware of the survival of drawings for them. These are now at the William Morris Gallery at Walthamstow. Both houses are in Private Road. The earlier one, 5, called Halcyon House, is No. 6 in the road and was built for his mother; the later one, 6, called Brooklyn, is No. 8 and was built for his brother. Their exact dates are still a mystery. Mackmurdo told Professor Pevsner that they were done about 1873 and about 1887. The drawings for Halcyon House have a handwritten note by Mackmurdo: 'The first house I designed, 1871,' but also a signature: 'John Bentley, 1876.' On the other hand, Brooklyn, or a design almost identical with it, was published in *The Hobby Horse*, No. 5, in 1887, and so it may be more likely to have been designed shortly before that date. In that case one would have to reckon ten or more years between Halcyon House and Brooklyn. Brooklyn is characterized by a total absence of the Shavian trappings of Halcyon House, by a remarkable emphasis on horizontals and by the overhang of the upper storey carried on verticals which are set slightly in front of the wall of the ground floor. Judging by the sparing classical details the house might be closer in date to the design for a house for an artist published in *The Hobby Horse*, No. 1, 1884, than to the revolutionary designs of 1886 which are known and which culminated in the exhibition stand for the Century Guild at the Liverpool International Exhibition, 1. This is illustrated in Professor Pevsner's article as well as in his *Pioneers*.



1

The British Architect, in illustrating it, calls it 'a pretty strong protest against the redundant vagarisms of modern Renaissance,' and the protest must have been even stronger when the little building was new; for it was painted a bright yellow to set off the rich, dark colours of the furniture and fittings. Less familiar are the exhibits of Cope Bros., the tobacco importers, at the same exhibition, also designed

1 (above), *Mackmurdo's stand for the Century Guild at the Liverpool exhibition of* 1886. 2, *his stand for Cope's at the same exhibition.*



2

*e.g. H. Tschudi Madsen: *Sources of Art Nouveau*, Oslo, 1956; *Jugendstil*, edited by H. Selling, Heidelberg, 1959; also in THE ARCHITECTURAL REVIEW itself in the papers by R. Schmutzler, vols. 117 and 118, 1955, and by R. Baurmann, vol. 123, 1958.

by Mackmurdo. They had an exhibition stand, 2, similar in design and painted light lemon yellow, and, in addition, an outdoor pavilion called Cope's Cabin, 3. This was of wood framing, faced with zinc and strips of redwood, and had a strangely horizontal superstructure on the same thin posts with far projecting thin abaci as the two exhibition stands. The interior, 4, is worth recording too, with its exposed and unrelieved timbers.

Of about the same time as these revolutionary structures at Liverpool is Sandhill, a cottage at Formby, outside Liverpool, 7, built for Albert Crompton, founder of what called itself the Church of Humanity. The exact date is not recorded, but it is supposed to be of before 1890.* This is a much more conventional job, with exposed timber framing and a long verandah. The only unusual thing for its date is perhaps the long narrow shape of the house. The verandah posts have curious bulgy shapes almost reminiscent of Dietterlin, and the eaves of the verandah are wavy.

1890 is the date of the Gymnasium, 8 and 9, which was incidentally not at Liverpool, as Professor Pevsner says, but at St. Helens. It was demolished a few years ago. Its interior is illustrated in Professor Pevsner's article, but its exterior also deserves recording, with its reeded brick strips instead of normal pilasters and its naughty shortened pilasters on the door lintel.

The last date of these buildings in Lancashire has taken us actually beyond the date of the Savoy Hotel, which was begun in 1884 and completed in 1889. That Mackmurdo had something to do with it seems certain, both from his own remarks and from his family relation to D'Oyly Carte, but Professor Pevsner is entirely wrong in attributing to him the architecture of the building; that is, the river range, which was the original part. He may, on the other hand, well have advised on such features of furnishing as are described in Professor Pevsner's *Building of England, London: The Cities of London and Westminster*.

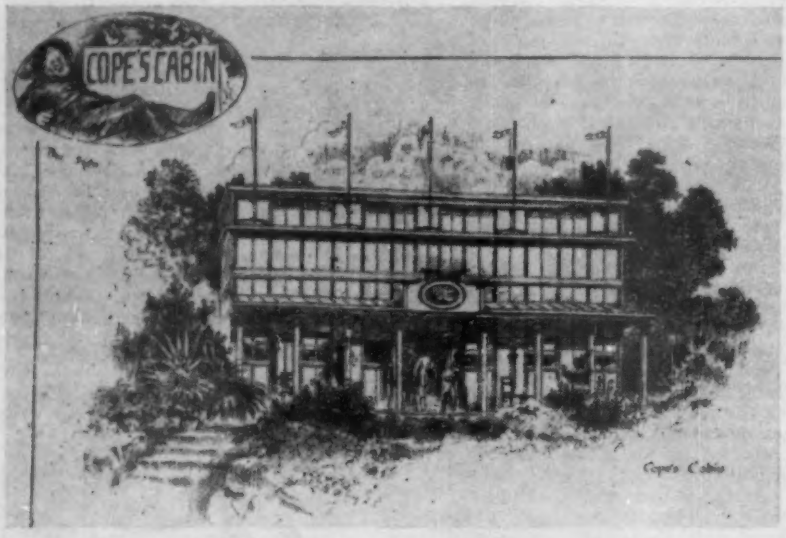
Of Mackmurdo's work in London during the nineties the houses at No. 12 Hans Road (1891) and No. 25 Cadogan Gardens (1899), 10-12, are known. In the mid-nineties a much less attractive building went up, the Olde Swanne in Sloane Street, close to the corner with the tube station. This is in a neo-Wren taste with detached giant columns. The house in Hans Road is of course distinguished from its neighbours by Voysey by its heavy, classical pedimented doorway and other classical details. The very elongated oriel window through two storeys is, on the other hand, a Norman Shaw motif, and this is repeated in the house in Cadogan Gardens. The general tenor of this, and especially its mansard roof with dormer windows, connects this house with another, so far entirely unknown: No. 12 Redington Road, 13. This comes fairly close to the neo-Georgian façade conventions then gradually being developed. It was built for a Mrs. Geddes, no doubt a relative of Patrick Geddes with whom Mackmurdo was in touch over his plans for building 'regional communities,' i.e. something like New Towns or at least New Villages. Mr. John Brandon Jones possesses drawings for this house and helped me to trace it. It was occupied later by Hamo Thornycroft, the sculptor.

Mackmurdo's turn from the innovations of the 1880's to the safer ground of Italian styles is also obvious in the Chapel of the Ascension, Bayswater Road, 14, built in 1890–3 for Mrs. Russell Gurney as a chapel for quiet worship. Professor Pevsner attributes the building to Mackmurdo's partner and friend Herbert Horne, who later lived in Florence and whose collection is now the Horne Museum there, but correspondence published in the parish magazine shows that Mackmurdo certainly claimed it as his own. The façade is in a pure Quattrocento style; the interior was burnt out during the war.

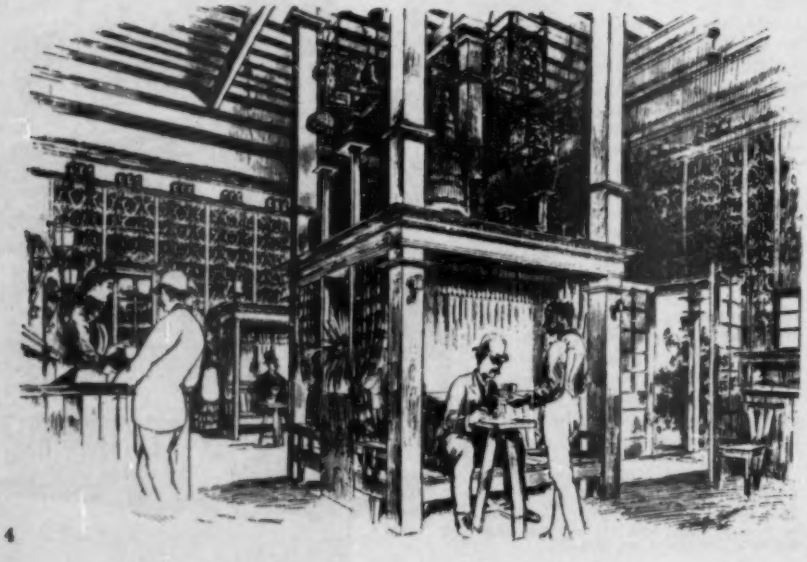
With the Cold Storage Warehouse at 109–113 Charterhouse Street, 15, the year 1900 is reached, and a job in a very restrained Wren style with giant pilasters, little garlands above the windows and an attic curving up towards the centre. Mackmurdo was proud to relate that this had been the first cold storage warehouse in London. Shortly after this building had been designed Mackmurdo bought himself an eleven-acre estate at Wickham Bishops in Essex. His house—or intended house—Great Ruffins, was ready only in 1904, but already by about 1900 he had built Little Ruffins as stage one of his plan. Great Ruffins, 16, was everything that Mackmurdo had dreamt of. It had seven bathrooms and as many changes of floor-level between what, from the outside, are the ground and first floors. The lantern overlooks the estuary of the Blackwater for miles and was intended to hold cupboards for charts where Mackmurdo could pursue his hobby of astronomy. However, as is known, Mackmurdo at this time lost most of his money and had to go on living at Little Ruffins (and later in a yet smaller cottage, now called Mackmurdo's.)

He built little after that. Beacons at Wickham Bishops of about 1920 is no more than a hotch-potch of motifs, although a lodge belonging to it, 17, is simple, straightforward and has remarkably fine proportions. The Village Hall at Bradwell, Essex, built in 1932 or thereabouts, is the only late design of personal character. It was built under the Essex Rural Community programme and, with its brick piers supporting the roof, is reminiscent of his very early work of nearly fifty years before.*

*I owe this information and the photograph to Mrs. Webb who now lives at Sandhill Cottage.



3



4

3, exterior, and 4, interior, of the outdoor pavilion, called Cope's Cabin, designed by Mackmurdo at the Liverpool exhibition of 1886.

*My thanks for help are due to Miss Elinor Pugh, Mackmurdo's niece, and to Miss Bridget Goshawk of the William Morris Gallery.



5



6



9



7



8

5, 6, Halcyon House and Brooklyn, both in Private Road, Enfield. 7, a cottage at Formby, Liverpool. 8, 9, the Gymnasium at St. Helens. 10, 11, house in Hans Road; 12, house in Cadogan Gardens; 13, house in Redington Road, all in London. 14, the Chapel of the Ascension, Bayswater Road. 15, Cold Storage Warehouse, Charterhouse Street, London. 16, Great Ruffins, at Wickham Bishops, Essex. 17, the Lodge at Beacons, also at Wickham Bishops.



10
11
12
13









14
15
16
17







by Mackmurdo. They had an exhibition stand, 2, similar in design and painted light lemon yellow, and, in addition, an outdoor pavilion called Cope's Cabin, 3. This was of wood framing, faced with zinc and strips of redwood, and had a strangely horizontal superstructure on the same thin posts with far projecting thin abaci as the two exhibition stands. The interior, 4, is worth recording too, with its exposed and unrelieved timbers.

Of about the same time as these revolutionary structures at Liverpool is Sandhill, a cottage at Formby, outside Liverpool, 7, built for Albert Crompton, founder of what called itself the Church of Humanity. The exact date is not recorded, but it is supposed to be of before 1890.* This is a much more conventional job, with exposed timber framing and a long verandah. The only unusual thing for its date is perhaps the long narrow shape of the house. The verandah posts have curious bulgy shapes almost reminiscent of Dietterlin, and the eaves of the verandah are wavy.

1890 is the date of the Gymnasium, 8 and 9, which was incidentally not at Liverpool, as Professor Pevsner says, but at St. Helens. It was demolished a few years ago. Its interior is illustrated in Professor Pevsner's article, but its exterior also deserves recording, with its reeded brick strips instead of normal pilasters and its naughty shortened pilasters on the door lintel.

The last date of these buildings in Lancashire has taken us actually beyond the date of the Savoy Hotel, which was begun in 1884 and completed in 1889. That Mackmurdo had something to do with it seems certain, both from his own remarks and from his family relation to D'Oyly Carte, but Professor Pevsner is entirely wrong in attributing to him the architecture of the building; that is, the river range, which was the original part. He may, on the other hand, well have advised on such features of furnishing as are described in Professor Pevsner's *Building of England, London: The Cities of London and Westminster*.

Of Mackmurdo's work in London during the nineties the houses at No. 12 Hans Road (1891) and No. 25 Cadogan Gardens (1899), 10-12, are known. In the mid-nineties a much less attractive building went up, the Olde Swanne in Sloane Street, close to the corner with the tube station. This is in a neo-Wren taste with detached giant columns. The house in Hans Road is of course distinguished from its neighbours by Voysey by its heavy, classical pedimented doorway and other classical details. The very elongated oriel window through two storeys is, on the other hand, a Norman Shaw motif, and this is repeated in the house in Cadogan Gardens. The general tenor of this, and especially its mansard roof with dormer windows, connects this house with another, so far entirely unknown: No. 12 Redington Road, 18. This comes fairly close to the neo-Georgian façade conventions then gradually being developed. It was built for a Mrs. Geddes, no doubt a relative of Patrick Geddes with whom Mackmurdo was in touch over his plans for building 'regional communities,' i.e. something like New Towns or at least New Villages. Mr. John Brandon Jones possesses drawings for this house and helped me to trace it. It was occupied later by Hamo Thornycroft, the sculptor.

Mackmurdo's turn from the innovations of the 1880's to the safer ground of Italian styles is also obvious in the Chapel of the Ascension, Bayswater Road, 14, built in 1890–3 for Mrs. Russell Gurney as a chapel for quiet worship. Professor Pevsner attributes the building to Mackmurdo's partner and friend Herbert Horne, who later lived in Florence and whose collection is now the Horne Museum there, but correspondence published in the parish magazine shows that Mackmurdo certainly claimed it as his own. The façade is in a pure Quattrocento style; the interior was burnt out during the war.

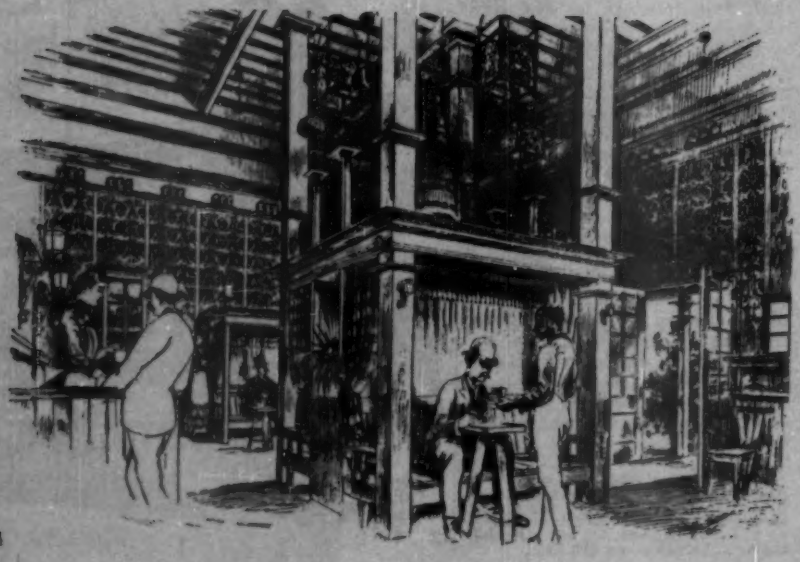
With the Cold Storage Warehouse at 109–113 Charterhouse Street, 15, the year 1900 is reached, and a job in a very restrained Wren style with giant pilasters, little garlands above the windows and an attic curving up towards the centre. Mackmurdo was proud to relate that this had been the first cold storage warehouse in London. Shortly after this building had been designed Mackmurdo bought himself an eleven-acre estate at Wickham Bishops in Essex. His house—or intended house—Great Ruffins, was ready only in 1904, but already by about 1900 he had built Little Ruffins as stage one of his plan. Great Ruffins, 16, was everything that Mackmurdo had dreamt of. It had seven bathrooms and as many changes of floor-level between what, from the outside, are the ground and first floors. The lantern overlooks the estuary of the Blackwater for miles and was intended to hold cupboards for charts where Mackmurdo could pursue his hobby of astronomy. However, as is known, Mackmurdo at this time lost most of his money and had to go on living at Little Ruffins (and later in a yet smaller cottage, now called Mackmurdo's.)

He built little after that. Beacons at Wickham Bishops of about 1920 is no more than a hotch-potch of motifs, although a lodge belonging to it, 17, is simple, straightforward and has remarkably fine proportions. The Village Hall at Bradwell, Essex, built in 1932 or thereabouts, is the only late design of personal character. It was built under the Essex Rural Community programme and, with its brick piers supporting the roof, is reminiscent of his very early work of nearly fifty years before.*

*I owe this information and the photograph to Mrs. Webb who now lives at Sandhill Cottage.



3



4

3, exterior, and 4, interior, of the outdoor pavilion, called Cope's Cabin, designed by Mackmurdo at the Liverpool exhibition of 1886.

*My thanks for help are due to Miss Elinor Pugh, Mackmurdo's niece, and to Miss Bridget Goshawk of the William Morris Gallery.



5



6



9



7



8

5, 6, Halcyon House and Brooklyn, both in Private Road, Enfield. 7, a cottage at Formby, Liverpool. 8, 9, the Gymnasium at St. Helens. 10, 11, house in Hans Road; 12, house in Cadogan Gardens; 13, house in Redington Road, all in London. 14, the Chapel of the Ascension, Bayswater Road. 15, Cold Storage Warehouse, Charterhouse Street, London. 16, Great Ruffins, at Wickham Bishops, Essex. 17, the Lodge at Beacons, also at Wickham Bishops.



10
11
12
13









14
15
16
17







ID

a monthly review of interior design

Two business interiors

architects: Michael Lyell Associates

One of these works is the interior arrangement of part of an existing building to make offices for a contracting company in Euston. The other involved the creation of additional accommodation on the roof of an existing structure in Millbank for a leading tobacco manufacturer.

1, reception area of offices in Euston. The bare shell into which the interior had to be fitted included the suspended ceiling with heating above, and lighting and flooring were provided to the tenant's requirements. The partitioning was designed by the architects, using standard aluminium sections stocked by the sub-contractor. Solid panels in the partitioning are polished Sapele veneered, flush doors are hardwood veneered.

2 (opposite), storage unit designed to take advantage of, and regularize, a structural recess in the corner of one of the directors' offices.

3 (opposite), staff recreation room, office extension in Millbank. The ceiling is made up of acoustic panels and recessed light fittings, all specially made to fit a module fixed by the existing structure. The rhythmic alternation of colours in the whole-wall curtain-

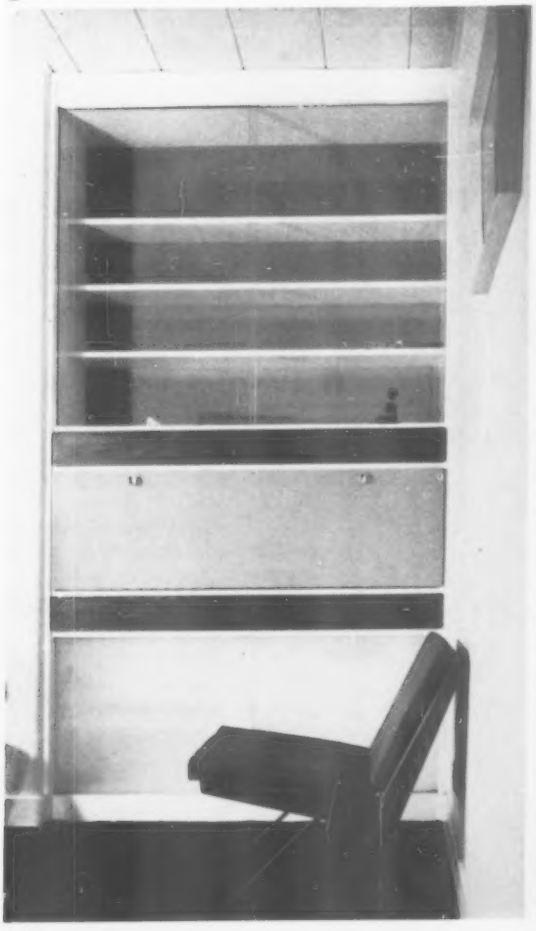




3

ing helps to give order and interest to what might otherwise be a visually over-long wall.
4. the recreation room, looking toward the marble fireplace in the oak-panelled end-wall.

2



4





1

Staff restaurant and coffee-bar in Westminster

architect : David Rock

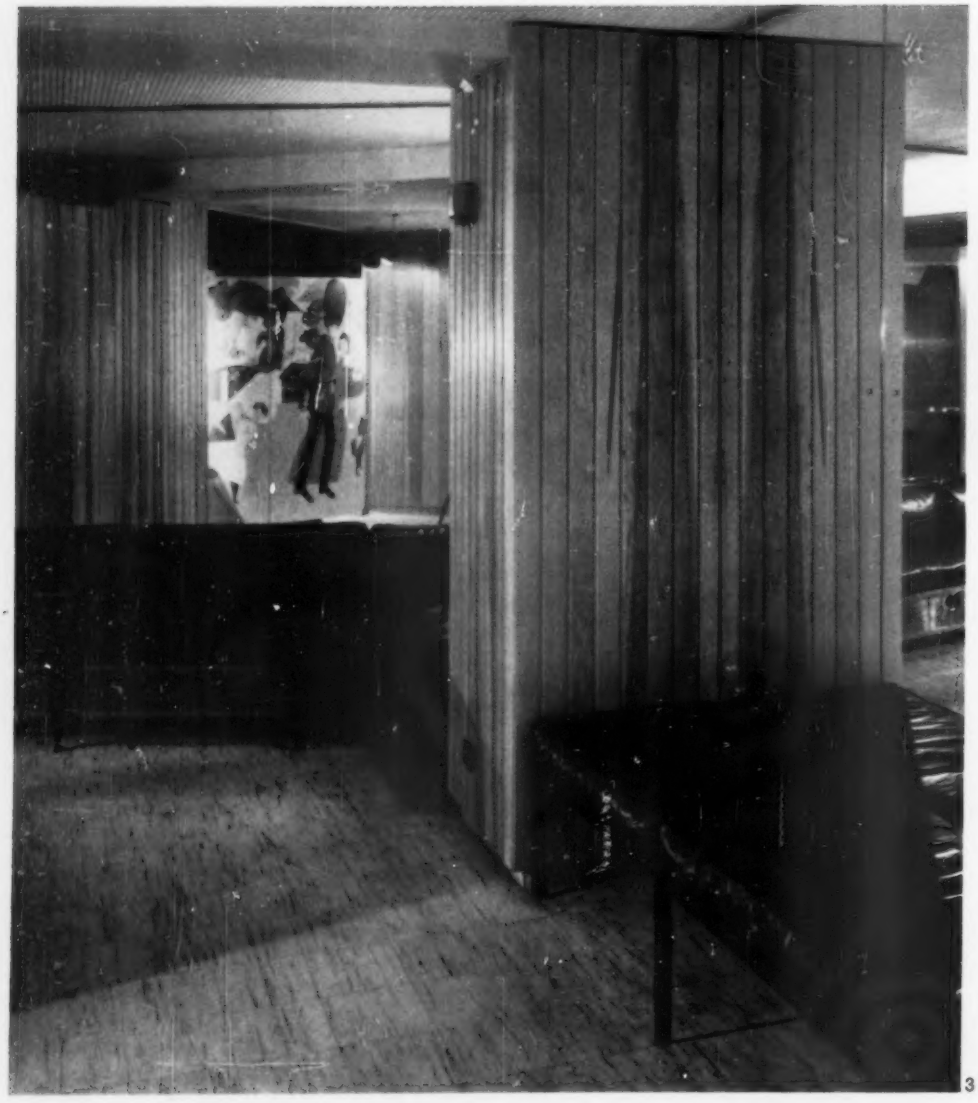
The architect's problem was not only to make a physical conversion of a group of basement rooms, but also to make the necessary conversion of atmosphere to change a canteen into a restaurant. Most of the given walls were structural, and the physical form of the spaces could not be altered significantly.

1, general view looking back towards entrance. The walls are panelled out in parana pine boarding to conceal an untidy array of buttresses, while the vertical emphasis of the boards increases the apparent height. Vertical strip lighting in the window reveals illuminates the wall of the basement area and prevents any feeling of underground murkiness.

2, the coffee area seen from the service bar, with the entrance 'cylinder' reflected in a wall mirror.

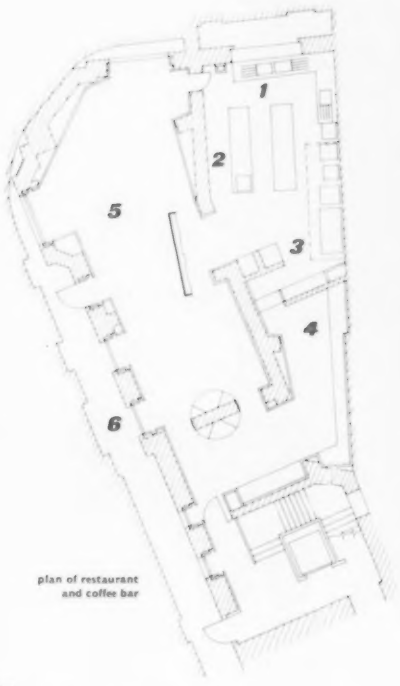
2





3

3, a corner of the coffee area, showing the effective multiplication of the real space by mirror-to-mirror reflections. Ventilation extracts are stowed neatly under the black plastic upholstered seats. All boarding stops clear of the floor, leaving a 'negative detail' to avoid scuffing of the wall surface by mechanical polishers.



plan of restaurant and coffee bar

key
1, washing up
2, servery
3, kitchen
4, coffee bar
5, restaurant
6, basement area



4, the entrance cylinder, formed to create a sense of a unified space with a free-standing object in it, rather than a wall with two doors pierced in it—the wall, being structural, had to remain and can be seen in the plan, left. The mural was painted by William Lane.

Dining-room, Lincoln College, Oxford

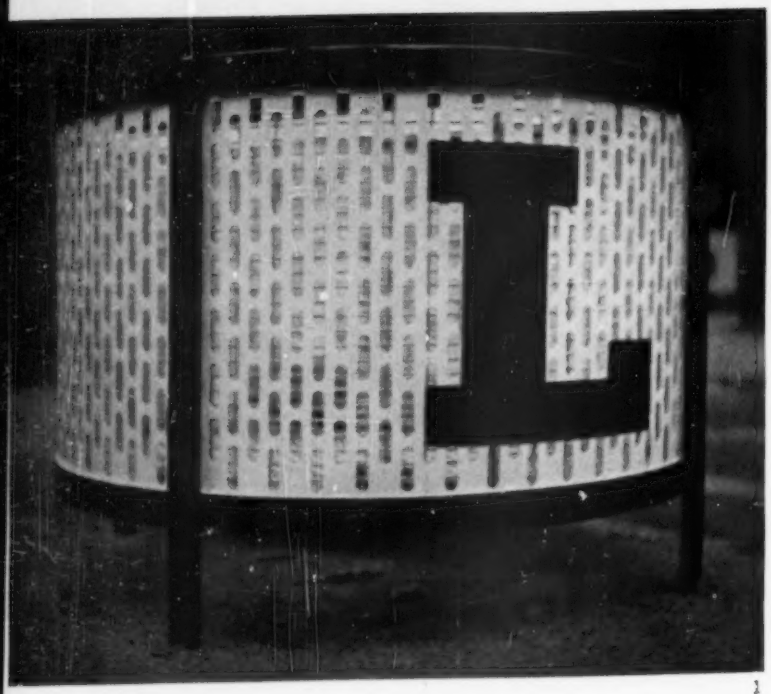
architects: Architects' Co-Partnership

Another contribution to the problem of collegiate infill by Architects' Co-Partnership (cf. AR, August, 1960) but in this case an interior whose only source of natural light would give windows with an unsatisfactory aspect, the whole to be fitted in between existing walls, buttresses, etc. It is, however, an entirely new structure, though approached through a common-room formed out of existing eighteenth-century interior.

1, the undergraduate dining-room, looking towards the entrance from the lobby. Entrance wall match-boarded in timber, ceiling of varnished beech battens, wall at right plastered and painted grey, curtains covering glazed screen (instead of a window) on left. The tables were purpose-designed by the architects and the cock over the door was among the entries from Royal College of Art students in a competition for a suitable object to occupy the display case which serves as an over-door in the thirty-nine-inch wall.

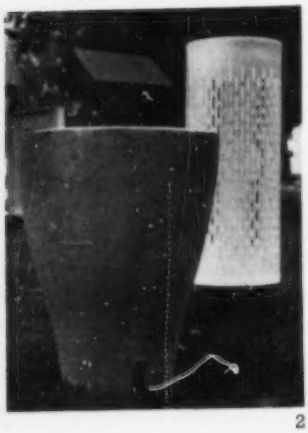


1



1

Litter-bins on parade



2

1, such triumphs of the Functional Tradition as this generously-scaled metal bin, designed by Dereck Goad and John Hicks (manufactured by G. A. Harvey & Co.) were unfortunately rare among the diploma-winners at the Council of Industrial Design's recent Litter Bin exhibition. A straightforward welding job in standard metal sections and perforated sheet with separate inner baskets, each occupying half its nearly three feet of overall diameter, it is intended to be seen in wide-open spaces without disgracing them.
2, in contrast, many of the exhibits seemed to be self-consciously simple art-objects; this small cast concrete example (Kenneth Grange for Henry Hope & Sons) looks unlikely to survive, visually, outside a garden setting.
3, wall mounted fittings, ranged on parade, emphasize the independent art-object quality of the bulk of the designs, and the failure of most to communicate any information visually about their function.



3



4

4, over-elaboration was—fortunately—not a common fault. These complicated examples, in which every bin is a sort of vest-pocket Festival of Britain and difficult to use because one has to bend down and insert one's hand under an overhang, were criticized only on the grounds that they were a comfortable height for sitting on.
5, 6, absolute simplicity, by contrast, paid off handsomely in designs clearly intended for urban use because lamp-post mounted. 5, by John and Sylvia Reid for Elton Civic Supplies, in fibre-glass; 6, in steel, by DRU for Burnham & Co. The modish lettering on the latter, can at least be painted out and re-done, unlike the modish tricks of some other entries.
7, the ultimate threat, designed by John Morgan for Cartem Engineering. The technical arguments in its favour are overwhelming: intended for temporary use at, e.g., fairs, race-meetings, etc., it collects the litter in disposable bags of high-wet-strength paper, clipped up to a steel ring and lid, an hygienic solution that will be hard to better. But the paper bag looks like litter in its own right, even when new and dry. The situation seems to be the perfect argument for making expendable equipment bright, even gaudy, to counteract the visual depression these objects will surely bring.



5



6



7

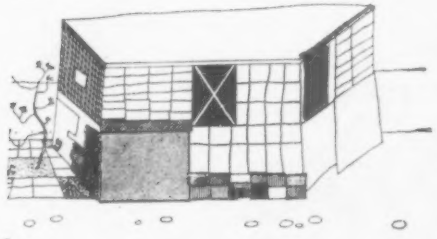
DR
design review

Alison & Peter Smithson

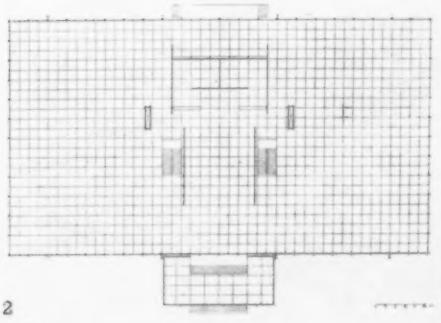
f i x

Architecture must focus on to the problem of how the community structure can be made more comprehensible; and this is not only a matter of 'city planning,' but must inevitably alter the nature of architecture—at least as far as the nature of architecture has been understood since the Renaissance.

Transience and permanence are in the conception of a building as much as its material structure. Charles Eames's house, 1, though built of steel is conceived as a transient, almost casual, structure; Mies van der Rohe's Crown Hall, 2, with its formal plan makes claims on eternity.



1



2

permanence and transience

Just as our mental processes need fixed points (fixed in the sense of change over a relatively long period) to enable them to classify and value transient information, and thus remain sane and lucid, so too, the city needs 'fixes'—identifying points with a long cycle of change, by means of which things changing on a shorter cycle can be valued and identified. With a few things fixed and clear, the transients no longer menace the sense of urban structure or the citizen's sanity, but can uninhibitedly reflect short-term needs and moods. If this distinction between the changing and the fixed were observed there would be less need for elaborate control for which no good case can be made and legislative energy could be concentrated on long-term structure.

In the related cycles-of-change of a community, historical buildings are often regarded as fixed in perpetuity, others—like law courts and municipal buildings—have almost unchanging functions, or—like power stations and heavy industrial plant—represent investments too massive to be altered frequently. These are the architectural fixes; the architectural transients are the small buildings—particularly shops and houses—that are added to, altered, or completely rebuilt on a short term cycle of change.

The buildings in an urban environment should reflect the appropriate cycle of change. 'Fixes' should look fixed and 'transients' transient, *even if their actual life as a building* (so called permanent construction) *is the same.* Thus Mies van der Rohe's Crown Hall at IIT, 2, is a *fix*, and looks it, while Charles Eames's own house, 1, is a *transient*, and manages to look it, even though it too is built of steel and glass, and has roughly the same standard of permanence.

road as town-maker

The non-architectural environment is increasingly transient; posters change on a monthly cycle, sky signs change every six months, and shop windows, clothing, magazines, and so on, arrive and disappear with great rapidity, on cycles related obscurely to each other.

The main structure of the urban environment to which all this activity can be related, could be a special sort of road system. Such a system, designed to act as a structure for the whole community, neutralized by a green strip or built landscape, need not in fact be very large in relation to the town—two or three great highways are almost sufficient to serve even Los Angeles, where motorization is gradually approaching its saturation point of one car to every two persons, and motorway patterns of this size may already be approaching the stable condition of the railway system. Like them, it will probably then go into a slow decline.

This road system is a 'fix' for movement, running throughout the whole community,

but the big motorway intersections, like the Los Angeles 'Mixmaster,' or the San Francisco Skyway take-off for Oakland Bay Bridge, 3, are more like traditional architectural fixes, and could be properly associated with existing architectural fixes, as suggested in 4, where motorways serve, and ring, an historical centre. A whole network of motorways related to existing fixes in this way, 5, could serve not only for the purpose of travel, but also define the areas into which the urban region is divided. In this way the road-system would keep our apparent level of mechanization under control—since we no longer need to play it up for formal reasons, we can channel noise and excitement where they are needed, and create pools of calm where they are not.

An 'aesthetic of change' paradoxically, generates a feeling of security and stability by supplementing our ability to recognize the pattern of related cycles, and already we can also recognize that an adequate urban motorway system is a psychological as well as a functional requirement of an urban region—it offers the possibility of escape.

the road as liberator

Within 10 or 15 years most people will have reached an optimum consumer capacity for all the portable material appurtenances of the old way of life. How then are they to use their extended leisure?

To help them enjoy their spare time the densely populated areas will have to be able to empty a large proportion of their population into the surrounding countryside and, where possible, on to the nearest coast, pleasantly and within reasonable time, each week-end and on summer evenings.

There will be a vast need for an increase in the number of week-end caravans, huts, etc. In response to this demand our coastline, for example, will have to be reorganized in order to keep some parts without people, and to cope with the influx on the rest.

But the force of the need when it becomes apparent—not in penny packets confined to pockets of a class structure—but universal in magnitude—will make certain that the problem can no longer be tackled by simply multiplying the most attractive solutions that have been produced elsewhere for other places, at other times.

pattern of dispersal

Some parts of a solution are already obvious:

1. A general system of motorways, which besides being a fix, provides access to the countryside and to the sea. (At which points proper vehicle and people-handling facilities need to be provided, more or less on the model of Jones Beach which is part of the New York Parks Service.)

2. An increase in mass-transit facilities, particularly to existing resorts, whose major features, promenades, piers, etc., are already incapable of handling motorized holiday-makers.

3. Protection of areas of great natural beauty.

What is less obvious is the form that dispersal communities must take so that they will not become merely low amenity suburbs or stuffy townships.

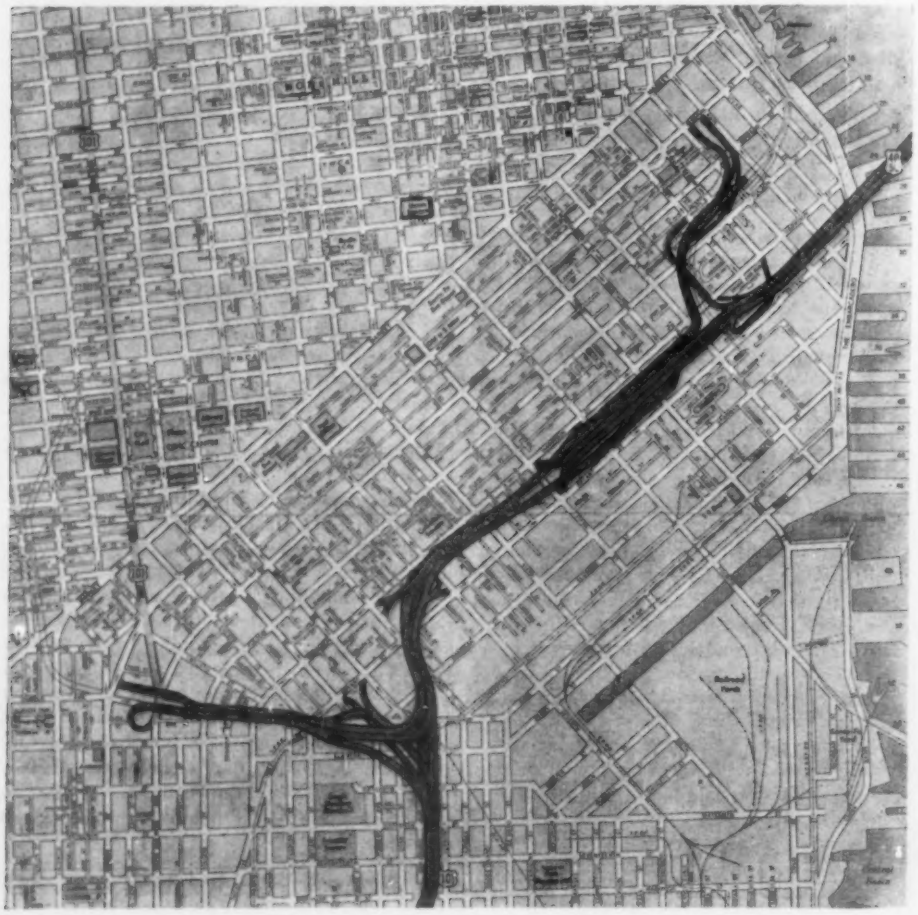
People want a country retreat so that they can live closer to nature and in a more disorganized way (or in a more organized but quite different way, should they choose to go up a mountain or into the arctic for rigorous physical/manhood-test conditions). To really provide these conditions, the shack has either to be by itself out of sight of other shacks (minimum 2-5 acres) or there has to be a pocket of shacks crowded together but surrounded by 'real country.' It is this latter condition that makes people unashamed of the squalor of the caravan site and the army camp—the feeling that all around is the wild which was only a short time ago where one stands, and quite unrepentant because nature can come

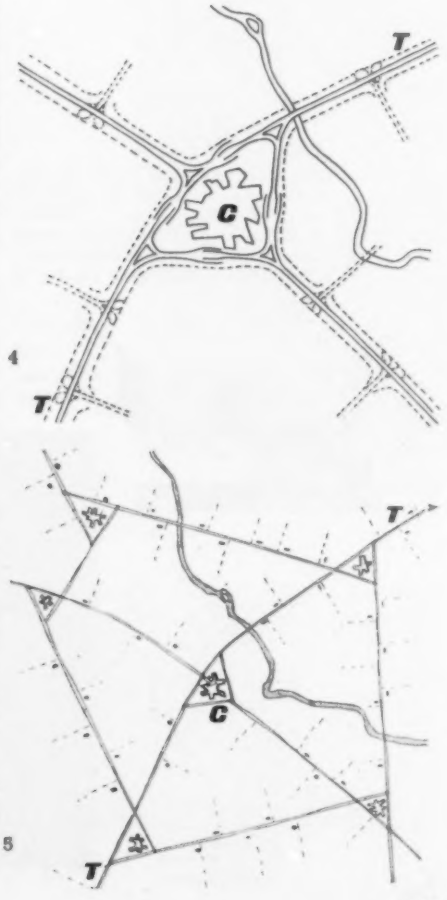
3, San Francisco Skyway take-off to Oakland Bay bridge; such constructions have now become the largest permanent structures—urban fixes—in the motorized town-pattern. Their scale is heroic, but no town is likely ever to need more than a handful to serve its two or three urban motorways; the rest of the road pattern is left undisturbed.

4, the authors' proposals for relating the new motorway, fix to the existing fix of an historical or other area of permanent importance, C., and to the pattern of urban motorways and trunk route, TT.

5, the pattern extended to include subsidiary urban centres.

3





4

5

back and wipe out the mess. (It is only when the camp is as large as Catterick, or as permanent as Chicago, that real despair sets in; nature will never get back.)

The consequence of leisure dispersal in the built-up city may well be to stimulate a demand for maximum-convenience town apartments (no maintenance, no outdoor space to keep up, maximum anonymity, maximum ease of servicing, and so on) and this usually means high density blocks of 300 persons to the acre and up—something like the new Commonwealth Apartments in Chicago. Wide dispersal, and its corollary localized high density, are part of the general Cluster City concept (cf. AR, November, 1957).

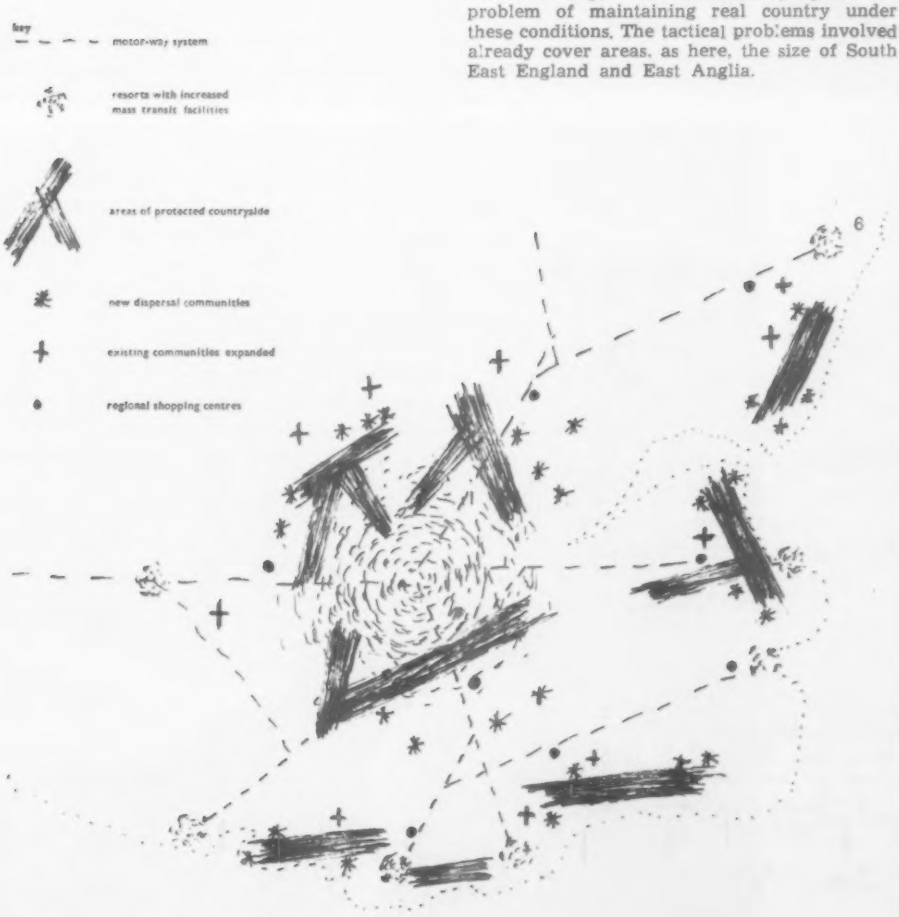
What can definitely be said about caravan sites, groups of holiday bungalows, extended villages, and so on, is that they must be kept small (150 to 200 families) and well dispersed (3 miles apart or so) and the inhabitants of these dispersed groups should use the existing regional towns or newly created out-of-town shopping centres (linked to the motorway system, since leisure-dispersal assumes motor cars) to do their shopping, and they should NOT be built up into mechanically tidy satellite communities.

These sorts of ideas are, of course, the result of thinking about human agglomerations, and cities in particular, as *places*—the principle already at work in the creation of fixes, and the architect's discipline.

The sort of redevelopment needed (because of the size and nature of modern communities) needs to be big in scale to be effective. Very large pieces of architecture NOT small pieces of architecture co-ordinated by planners. And it needs to be a special sort of engaged architecture in which the parts and the whole have their grouping characteristics built into them. This is not a 'matter of fitting into the environment,' but of buildings creating a special sort of environment through their human and formal organization. This is why we, and others, have for some time been agitating for the opportunity to develop an area in which the grouping characteristics can be carried from building to building into a freely organized whole, where the general objective is an active environment and not the creation of individual monuments, Renaissance-style (as in the Hansaviertel).

But if any of the ideas are to be realized, they have to be introduced, legislated for and administered, in the field of politics.

There is at present in England no arm of government really interested in environment at the theoretical and strategical level. And in consequence the results of action at the tactical, or local government level, lack conviction.



6, the tactics of population dispersal around a major urban nucleus: the motorway system, and mass transit facilities, make it possible for the population to disperse to resorts and 'real country,' but immediately pose the problem of maintaining real country under these conditions. The tactical problems involved already cover areas, as here, the size of South East England and East Anglia.

conclusion: a strategy for the next twenty years

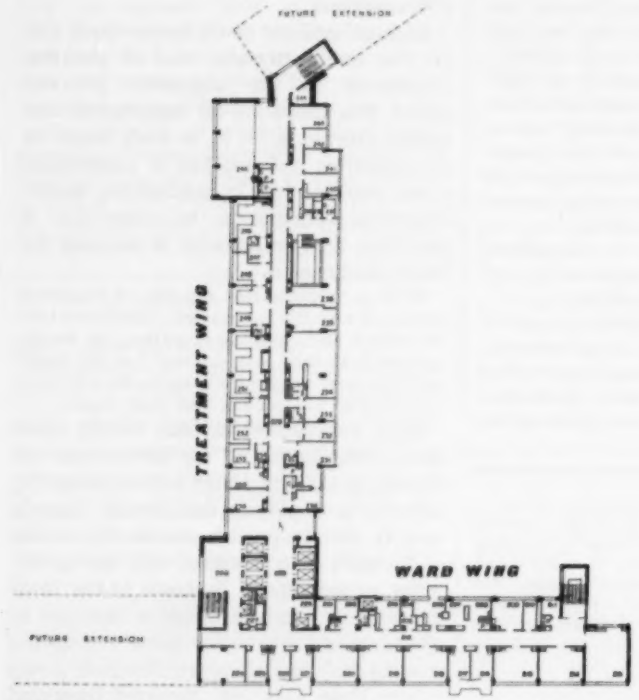
What seems to be needed is an independent body—a sort of cross between Chatham House and The Economist's 'Intelligence Unit,' which can both carry out independent research (the findings of which could be bought by the Government), or which could be set a task to assess, much like the War Office planners.

Such an institute could finance itself and its role would resemble that of planning consultants in the immediate post-war period. But unlike the old independent consultant planner, a lot of its work would be the collection and analysis of information which would be done by geographers, mathematicians, statisticians, actuaries—that is providing the raw material of planning for bodies that need it.

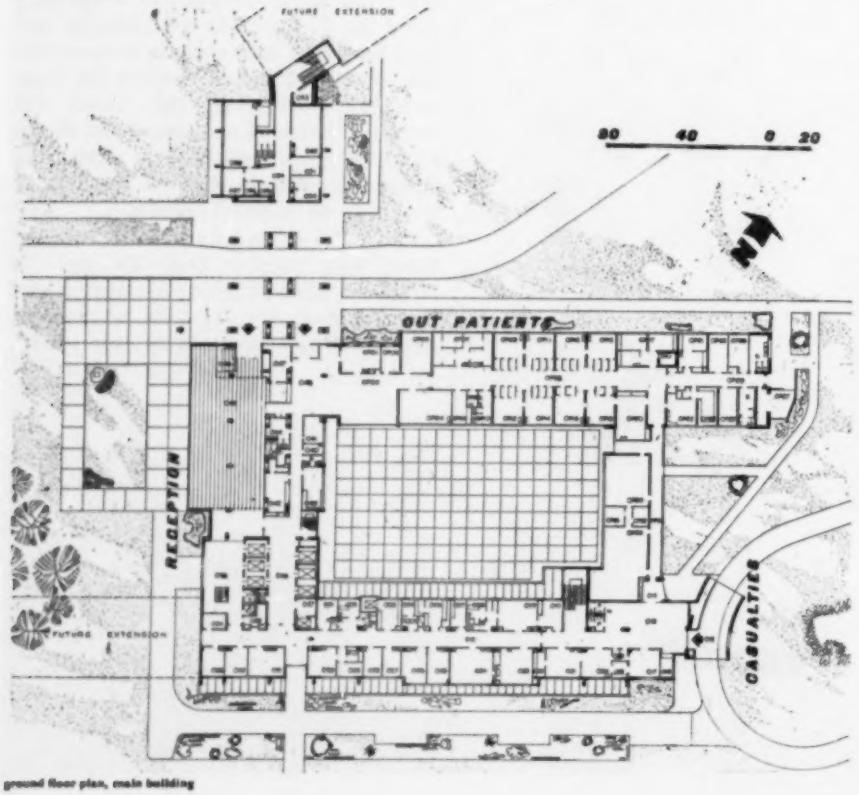
There is evidence that the role of consultant planner is reviving; for example, dissatisfied with the official plans they were getting, six Burgomasters in Holland commissioned Van den Broek and Bakema to prepare a scheme for the redevelopment of their villages and their joint region.

Such an independent body should, however, have the ear of the government, be capable of *initiating* large scale experimental schemes or of piloting development projects and be able to publish community studies—the work of the research unit, the universities, or individuals. It should be the 'ideas machine' or intellect behind a new sort of planning authority which should replace the present county and county borough set-up where these have been rendered irrelevant by the new sort of communities which have grown up. The work of this authority and the independent body could be co-ordinated by a Ministry of Communications and Communities which could also handle the economic, industrial and agricultural side of things at inter-Ministry level. This new Ministry would make it its job to *sponsor* large scale development projects.

This is not a plea for a National Planning Board with direction from the top; but rather for *dissemination of ideas and backing from the top*—the function one assumes of government in an open society.



second floor plan



ground floor plan, main building

HOSPITAL, ALTNAGELVIN, LONDONDERRY, N. IRELAND

ARCHITECTS: YORKE, ROSENBERG AND MARDALL (in association with H. W. Scatchard, Chief Architect, Northern Ireland Hospitals Authority).

As built, the hospital (the first new general hospital to be completed in Britain since the war) provides 390 beds, but it may later be extended to provide 600. The main building is multi-storey to concentrate services and consists principally of an 11-storey ward wing, facing east and west, at right-angles to an 8-storey treatment wing. A single-storey out-patients' department joins the ends of the two wings and encloses a paved courtyard.

The ward wing has ten identical floors above the casualty department, varied only in the case of children's and maternity wards. The treatment wing has administration on the first floor, operating theatres on the top floor with laboratories, x-ray, sterilizing, maternity and physiotherapy departments between. In separate buildings are the kitchens (from which food-trolleys are taken by tunnel and then by lift to the ward kitchens in the main block), laundry, mortuary, workshops, boiler-house and staff housing and nurses' hostel. The latter has an assembly hall adjoining.

The structure of the main block is reinforced concrete on a 22 ft. 6 in. grid. Vertical ducts adjoin all columns in the ward wing and pairs of columns in the treatment wing, and connect with the service tunnel in the basement. External walls are of precast concrete slabs with exposed aggregate using local materials. End walls are brick panels and there is some stone walling. Windows are steel with aluminium cills. The smaller buildings are also concrete framed, with external walls of coloured concrete bricks and precast slabs, except the nurses' hostel which has load-bearing cross walls and concrete brick walls with some vertical boarding in cedar. The assembly hall has a steel frame.

Associate architect, J. R. B. S. Penoyre. Architects in charge, W. G. Lucas and A. R. Parry. Structural engineers, Clarke Nicholls and Marcel.



1



2

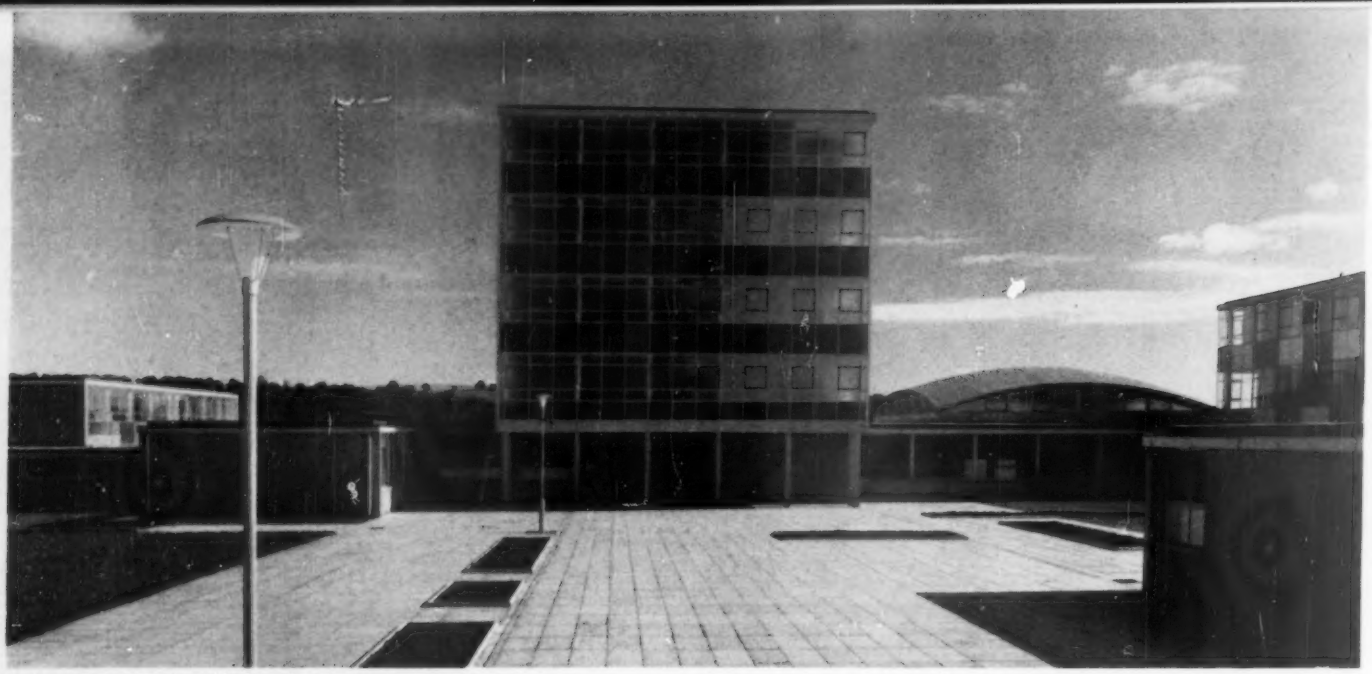
1, *the ward wing from the south-east, with administration offices on the ground floor.*

2, *aerial view from the north. In the foreground is the single-storey out-patients' department, with the ward wing on the left and the treatment wing on the right of the main building behind.*

3, *the entrance hall on the ground floor.*



3



4, the five-storey teaching block and main entrance seen from the central area, with the assembly hall on the right.

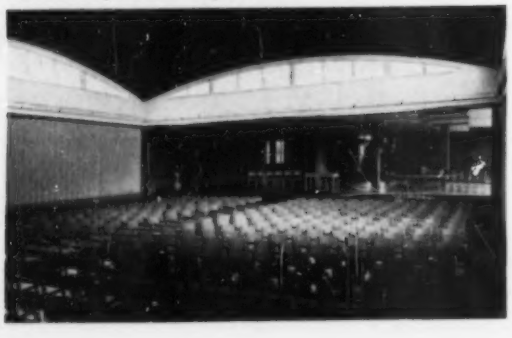
SECONDARY SCHOOL, DUNDEE

ARCHITECT: ROBERT DRON (city architect)

Kirkton High School is a comprehensive secondary school sited on the northern boundary of Dundee. The accommodation includes 32 classrooms, 38 specialist teaching rooms—such as laboratories, domestic science rooms, music rooms, etc.—two gymnasia, assembly hall, dining hall, library and swimming pool. Assembly hall, dining hall and main entrance occupy an openly planned central

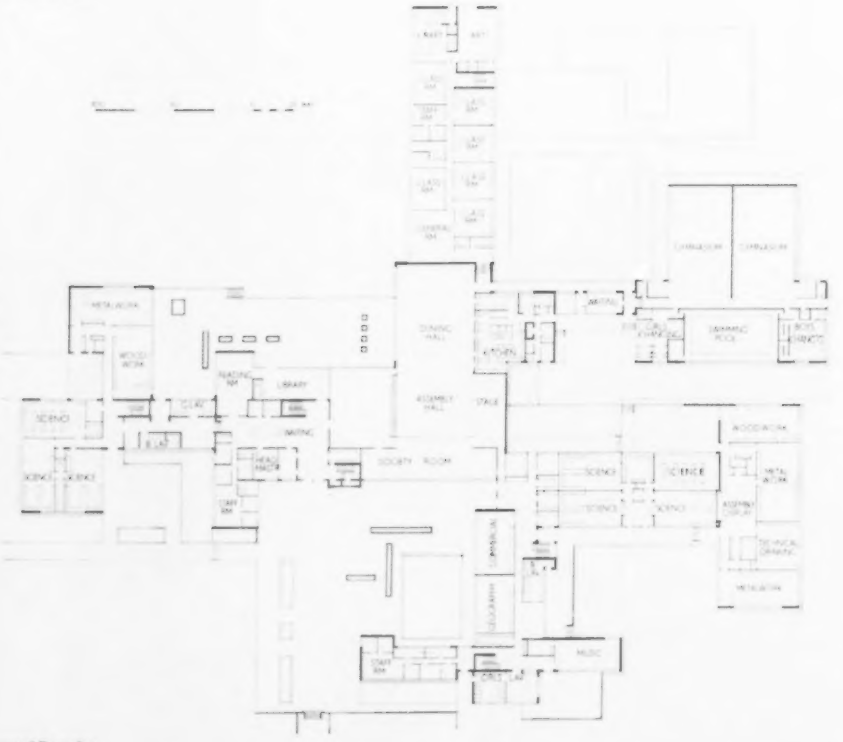


5, the rear of the five-storey teaching block.
6, interior of the assembly hall.





first floor plan



ground floor plan

area round which are disposed three teaching blocks of five, three and two storeys. The assembly hall, which has a paraboloid shell-concrete roof, is planned on two levels, the lower of which extends into the dining-space from which it is separated by a folding screen. The upper level is similarly linked with the school's social rooms, giving a large uninterrupted floor area that can be flexibly used. The kitchen is designed to serve 750 meals a day in two sittings.

The structure is a precast reinforced concrete frame, with prestressed ribbed floors and roofs. Cladding is curtain walling with infill panels of various materials and brick. Heating is by a floor-warming system using stored off-peak electricity.

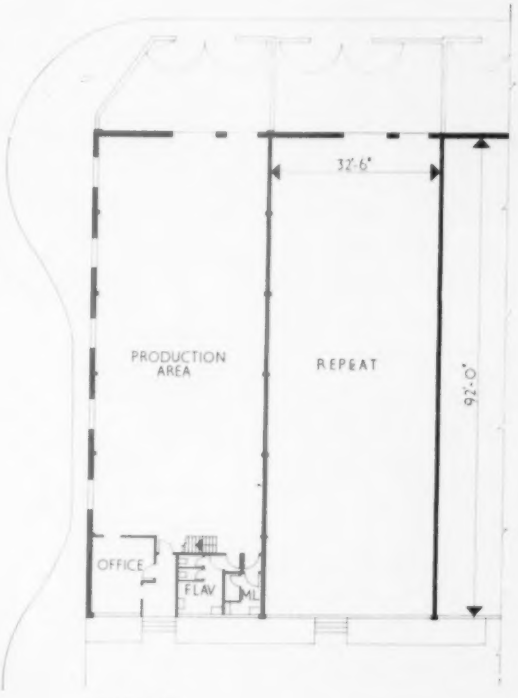
TERRACED FACTORIES, BASILDON NEW TOWN

ARCHITECTS: J. M. AUSTIN-SMITH AND PARTNERS

A row of nine identical small factories, designed for letting by the Development Corporation, singly or in groups. They have been built at minimum cost (about 33s. per sq. ft.), leaving the tenants to provide their own heating and light fittings. A small office and lavatories are included within the main roof area, with storage space above them. The ground floor area is 27,000 sq. ft. The building is designed to be seen in silhouette, being sited at the top of a slight rise. There is an access road at the back, with sliding doors into the production area. The structure is a reinforced concrete precast frame with purlins and ridge, spanning 33 ft. 6 in., and timber beams. External walls are brick, with wood-framed windows. Lighting is from a continuous central rooflight.



cross section



typical floor plan

7, *typical front elevation*



EXHIBITIONS

PAINTING AND SCULPTURE

The exhibition of Nigerian tribal art organized by the Arts Council to celebrate Nigeria's entry into the Commonwealth as an independent nation was drawn mainly from the British Museum's 'study collections.' This is a gentle way of saying that they rarely 'make' the display galleries and that many of them are of no great aesthetic value. There was nothing awe-inspiring about the show, but it was filled with tokens of the life lived by many different peoples and cultures which taxed one's objectivity to the utmost. It was more like being in a reading-room than a gallery, a reading-room full of three-dimensional pictograms which were perfectly legible as things and obscure as ideas. Nevertheless, one found oneself taking sides; accepting this object and rejecting that; finding one tribe lovable and another hateful.

Some small, vividly modelled terracottas from the vanished Nok culture are supposed to have influenced the naturalistic, passive-looking Ife heads. But there's a faint smell of the mortuary about the Ife heads, very different from the archaic warmth of the Nok things.

There were of course a large number of Benin bronzes in the exhibition, distinguished by brilliant craftsmanship but heavy with the atmosphere of militarized court life. Benin must have been as rigid and stifling as Potsdam.

Among the wood carvings there were certain things that gave one the impression that there must have been a sprinkling of self-taught sculptors in some of the tribes; men who carved things in their spare time, possibly to amuse the children or brighten up the hut, but just as possibly in the hope of being able to give up whatever else they were doing and make carving their full-time occupation. Their work is the equivalent of the pictures which in our own society are called 'Sunday paintings.'

One such naïve and ambitious work was the Ibibio 'ceremonial canoe' containing several figures. The figures were nicely carved but the 'canoe' was a cheap wooden packing case, painted up a bit and with a piece of carved wood attached to serve as a prow. It was engagingly primitive; but I can't imagine that a fully-trained Ibibio sculptor could countenance such a juxtaposition.

An even more naïve example from the Ibo tribe, a group of wooden figures jumbled tightly together and painted with reckitts blue, looked as conspicuously vulgar beside a tall, elegant Ibo shrine as a Bombois nude would do beside a Modigliani.

The work of the Ekoi was competent but struck an unpleasant note. Its masks of the human face are carried out in a tidied-up naturalism, with the teeth bared in a cold snarl. The carvings are covered with real skin, and the large horns which surmount some of them also appear to be real. If they are carved, they are meticulously faithful copies of real horns. Either way, they have the dead and fusty look of Victorian hunting trophies.

The Yoruba would seem to be a much more pleasant and relaxed crowd. Their typical stylizations are not perhaps among the greatest contributions to African wood carving, but their work has zest, warmth and humour. There's no doubt about the humour, even if it is on the rough side. A very recent example is a stately and absolutely impassive study of violent action. A large animal has been seized from behind by another of the same size, and although all that remains of it is its head and forelegs, it stands as peacefully as its devourer, whose behind is being pierced by the weapon of an equally placid warrior. This three-dimensional comic strip could be extended indefinitely, but it has been given a curiously haunting quality by the presence of four seated figures who have their backs turned to the action, as if unaware that anything is going on.

The Yoruba piece illustrated here, 1, is an Olojufoforo mask, whatever that may mean. (The catalogue could have done with a glossary.) It is neatly spotted all over with white paint, which gives it the same sort of 'bank holiday' look as the regalia of a Pearly King. I suspect that if the Olojufoforo is a dance society it's a pretty gay one.

The carving of a mother and children (the child you can't see is clinging to the mother's back), 2, was lent by the Horniman Museum and was one of the finest works in the exhibition. It was made by a member of the small Afo tribe and a similar work is still in one of their cult



1



2



Ah—yes, peeping mischievously 'round that door our young canine friend has come upon something really exciting. It's TRINASCOLIN—linoleum flooring at its most modern and appealing, and laid by Limmer & Trinidad.

Craftsman-installed TRINASCOLIN produces a colourful and resilient floor which is easily maintained. It is available in several thicknesses and a variety of plain and marbled colours. The Limmer & Trinidad Group of Companies are specialists in all types of Decorative and Industrial flooring and have unique technical and practical experience to offer.

Descriptive leaflets are available on request.

THE LIMMER & TRINIDAD LAKE ASPHALT CO. LTD.,
Trinidad Lake House, 232/242 Vauxhall Bridge Road, London, S.W.1.
Telephone: TATe Gallery 4388.

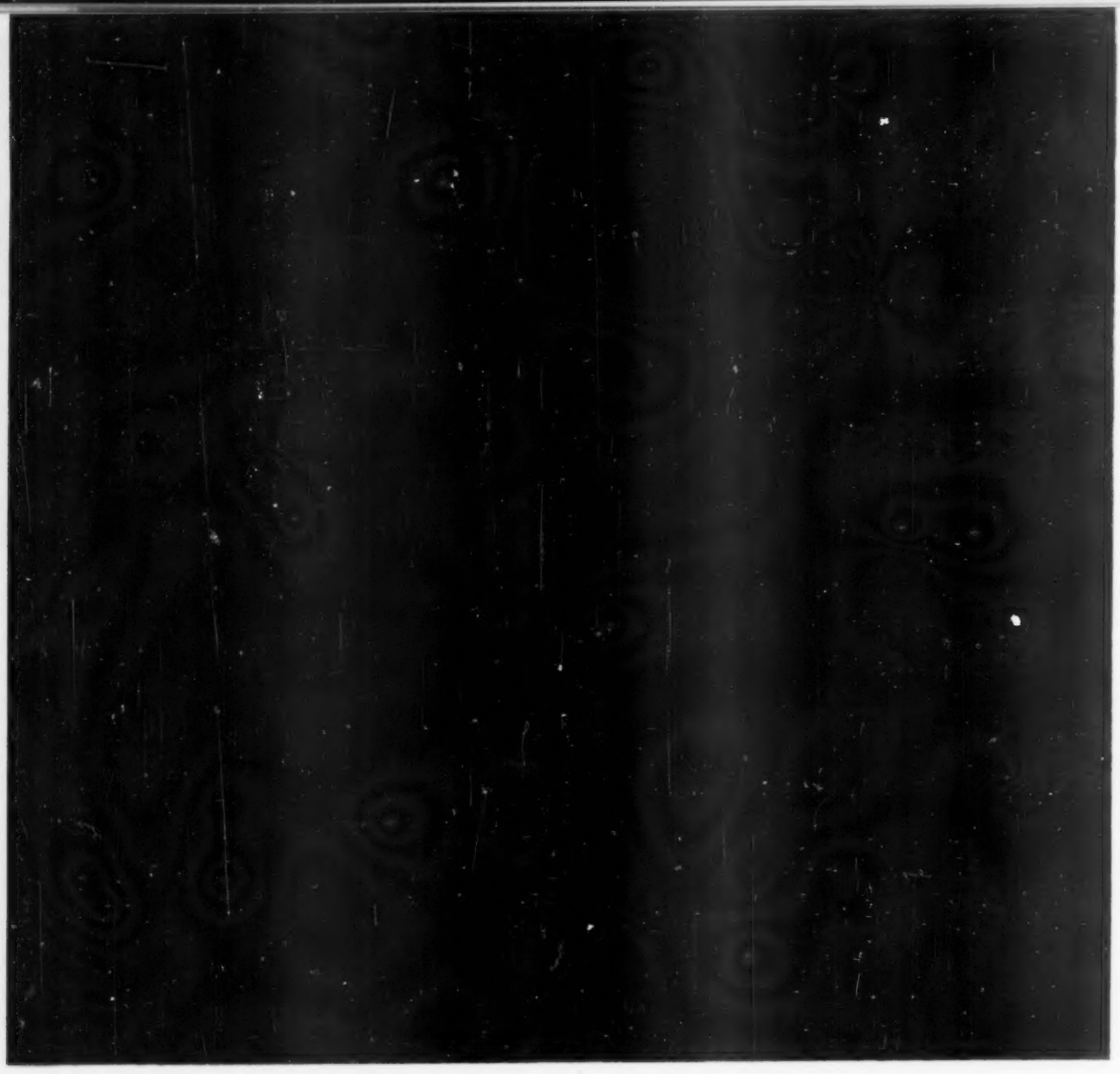
THE TRINIDAD LAKE ASPHALT CO. (NORTH WESTERN) LTD.,
India Buildings, Water Street, Liverpool 2. Central 8591.

THE WESTERN TRINIDAD LAKE ASPHALT CO. LTD.,
Asphalt House, St. Mary Street, Cardiff. Cardiff 24731.

MEMBERS OF THE

LIMMER & TRINIDAD

GROUP OF COMPANIES



"Cut Out" designed by Terence Couran. M 1083 shown to scale.

A new collection of machine printed wallpapers has just been compiled by the London Office of
The Wall Paper Manufacturers Limited 19/21 Mortimer Street, W.1.
and is now available through wallpaper suppliers. Many prominent designers are associated with this collection
among them Lucienne Day, Jacqueline Groag, Terence Conran, Joyce Storey and William Gear.
Modus wallpapers, because machine printed, are moderate in price,
and in order to increase their usefulness to Architects and Interior Designers
all these papers have been treated with a special protective coating.
YOU ARE INVITED TO VISIT THE EXHIBITION OF THESE WALLPAPERS AT
MORTIMER STREET (FIRST FLOOR)

WPM

MODUS

19/21 MORTIMER STREET LONDON W1

houses. The catalogue says that it is one of the most sacred objects of the tribe and 'the supposed source of increase and well-being.' I fancy that the only object in our society that would fit the last phrase is Ernie the computor.

Three other recent exhibitions were arranged to celebrate special occasions within the art world. Self Portraits by Van Gogh for the opening of the Marlborough Gallery's new premises in Bond Street, and exhibitions of Jawlensky at the Redfern and Gabriele Münter at the old Marlborough Gallery to link up with the Blaue Reiter exhibition at the Tate.

The exhibition of Self Portraits by Van Gogh was perhaps a curious choice for the inaugural show at the new Marlborough Gallery (the old one is to be called the New London Gallery), but no doubt the insistence on black ties for gentlemen attending the opening evening party had a symbolic significance.

Most of the self-portraits were from the



3

Paris period, 3, and didn't look particularly tragic or distraught. Some were 'piercing,' others melancholy, and the majority of them returned one's stare. They filled me with the utmost gloom. The closed world where a man stares and stares and sees nothing but his own image is a glimpse of hell, and to turn about in that rather small gallery and see nothing but the same face gazing from the walls was like being shut up in a cell lined with mirrors. It didn't matter that it wasn't one's own likeness. It was the kind of reflection one knew only too well. Sad and disillusioned, of course, and a bit concave from too much thought and too much anxiety, but strong, too, with a gaze that pierces the pretentions of others, and yet at the same time it's a kindly face, the face of a man who . . .

But at least one knew that the effect was produced by a sinister trick of juxtaposition, and that it could have been instantly mitigated by the presence of a few landscapes. It would be difficult to know how the effect produced by the Blaue Reiter exhibition at the Tate could have been mitigated. This thorough and well-docu-



4

mented exhibition put before us what its members had to give. A few more pictures by one of them, a few less by another would have made no difference.

They seem to have wanted to put Fauvism on a worthy philosophical basis. Kandinsky and Marc set the pace without having emerged from what one can only think was delayed adolescence. Kandinsky's 'Improvisations' are brightly coloured lyrical effusions which stem directly from romantic dreams about riding off on a galloping charger with a woman clinging to him. Beyond the flapping hill in the present example, 4, you can see the castle emerge, as if by magic. He achieved freedom too soon: even in the best of these Improvisations there is a kind of flabbiness and romanticized sensuality.

Marc was equally romantic and sentimental, but a little less highflown. He was not so much reaching for the stars as for a place in Rousseau's jungle heaven. He illustrates his sense of being a 'fauve' by his reverence for the beasts, 5.

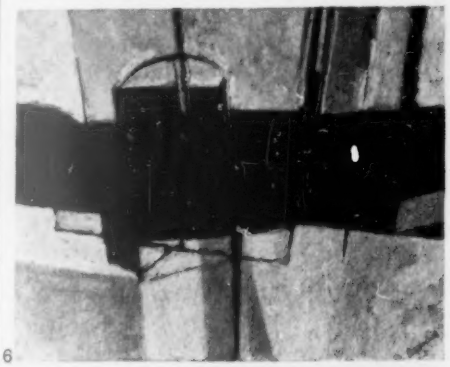


5

The other members were smaller fry at the time. Afterwards, Klee grew immensely in stature; Macke would have done if he had lived. The rest stayed smaller fry.

Alan Reynolds has returned to the Redfern Gallery and recently held a show of abstracts there. They are very decorative and many of them are in the colours which one associates with his landscapes, 6. But they seem to me to be too neat. One would have thought that the feeling for light and movement which had shown itself in his treatment of skies might have led to much freer abstractions and an interesting contribution to *tachisme*.

'Situations,' at the RBA Gallery, was arranged by a committee of young painters and critics, and consisted of very large pictures by English abstract artists who have been influenced by recent developments in American abstraction. Roger Coleman wrote a fascinating introduction to the show, in which he stated that the



6

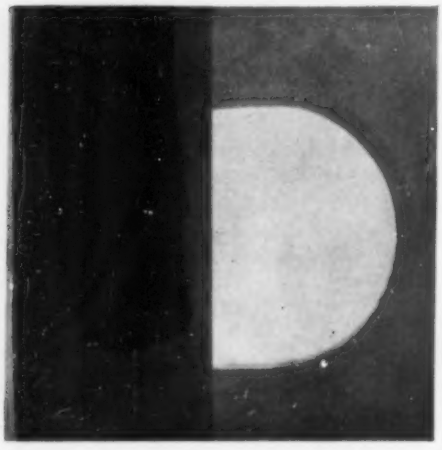
exhibitors paint on a large scale because current insistence on flatness 'denies the picture its traditional space backwards' and space therefore has to extend vertically and horizontally. He then went on to claim that 'this environmental definition of painting removes the case that the large picture needs a lot of room.' This claim, which is not altogether without foundation, is probably based on his experience of the way a large Jackson Pollock seems to envelop the spectator when he is only a yard or two away and becomes a decorative wall surface at a distance. But a Pollock needs a large space for the two-way action to operate, and to be forced to stay close to one for a long time would be a pretty daunting experience.

Many of the paintings in 'Situations' were far too restless to lend support to Coleman's contention. On the one hand there were the abstract expressionists with their turbulent and ragged textures, and on the other, certain hard-edge abstractionists whose rigid bars of colour flickered when one stood too close to them, and appeared to change position at the slightest turn of one's head. The latter would be

particularly maddening to live with in a small room. It's possible that these optical flicks were deliberately arranged as the next best thing to spitting in the spectator's eye, but the show was impressive, and the playboys only spoilt their own pitches.

Other works tended to support Coleman's claim: Gwyther Irwin's gigantic colleges, with their soft, hazy, melting surfaces, and hard-edge paintings by Peter Coviello, William Turnbull and John Plumb, all of which were distinguished by a large, cool graciousness. Brian Young neatly combined hard-edge with a carefully calculated passage of free abstraction, 7.

Four of the bronzes had not arrived from Italy when I went to see the Manzu show at the Tate. They included the still life reproduced on the cover of the catalogue, a rush-seated chair bearing an apple, a



7

pear and a stick of celery, which looks particularly fetching. It's this quality of 'fetchingness' that disturbs me a little. He is a serious artist, and yet everything has to turn into best quality candy or



8



9

remain lumpish. Even his cardinals are fetching, not to mention the 'Portrait of Inge,' 8.

A Boldini drawing of Mlle Deacon, 9, included in Lefevre's recent exhibition of small works by several masters, has the kind of charm that switches off when the period to which it belongs is over. For some reason, this example has, for me, switched on again.

Robert Melville

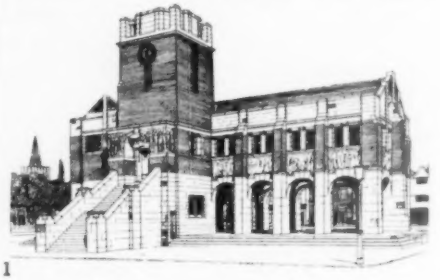
OBITUARY

C. H. HOLDEN 1874—1960

Charles Holden was eighty-five when he died. For the last twenty-five years of his life he had settled down to a style of architecture—the style of the School of Oriental Studies and the General Electric Company—which shares the absence of period ornament with the current style of the mid-century, but nearly everything else with the Neo-Georgians. But in 1930, or, to be precise, in 1930-32, he had made history with his small underground stations on the Piccadilly Line. They were among the first designs in England to be modern in the novel Continental way, and they were at the same time modest, accommodating, not out of sympathy with essential English traditions and sensitively adapted to their surroundings. Moreover, they were part of a house-style more sweeping and successful than any before or after. The conception of the house style was no doubt Frank Pick's, and it is likely that the decision to go so frankly Continental-modern and more exactly north-German-modern was initially Pick's, too, conveyed to Holden or inspiring Holden on a journey which the two men made together to just those parts of the Continent. (See THE ARCHITECTURAL REVIEW, XCII, 1942, page 31 etc.).

The great importance of these stations has tended to eclipse Holden's earliest work, though it is equally interesting and historically nearly as significant. Most of the buildings to which this obituary notice deliberately confines itself are little known. Some have not been illustrated since they first appeared in the early volumes of THE ARCHITECTURAL REVIEW and also in other journals.

Volume I of THE ARCHITECTURAL REVIEW (1896-97) gave a full page to Holden's Soane Medalion design, the design for a Provincial Market Hall, 1—and a remarkable design it was, although the editorial comment in the REVIEW was crushing: 'lack of knowledge,' 'waste of space,' 'motifs without structural ability' were all remorselessly noted, though 'considerable



1

latent ability' was recognized. For us that is what matters. Here is indeed an extremely bright student's design, making use, as bright students will, of the most striking motifs most recently put forward by the most go-ahead architects. The nicely asymmetrical composition has no immediate precedent; it was favoured by all the best of the Free-Neo-Tudor addicts. But the frieze of figures in relief was certainly fashionable at that very moment (see e.g. a design for a library by Percy Newton, ill. *Acad. Arch. Suppl.*, 1895) and so was the motif of the flatly spreading-out tree (see Townsend's Bishopsgate Institute, *Acad. Arch.*, 1895 and the same architect's design for the Whitechapel Gallery, *Acad. Arch.*, 1896, vol. I).

The free Neo-Tudor of Holden's, confirmed and no doubt made yet freer by his work in the office of C. R. Ashbee about 1898 and a little later, culminated ten years afterwards in the Bristol Central Library, 2, built in 1906 and illustrated in the AR XXIV, 1908, 330–47. It is a building whose plan was certainly no longer inexperienced, and it has in addition an extremely pretty façade building up towards the centre with its three oriel windows under arches, the tympana of which have again sculpture in relief. Over and above the sources so far mentioned, one feels distinctly reminded here of Mackintosh's Glasgow School of Art,

'Standard' Kingston sanitary ware installed at Shannon Free Airport





'Standard' Kingston wash basins and water closets were chosen for the new Terminal Building at Shannon Free Airport.
The Kingston wash basins are hung on concealed wall brackets and fitted with mixer taps. The Kingston closets are of the double trap siphonic type with the bowl and cistern close-coupled. Both are made of vitreous china which makes them, like all 'Standard' sanitary ware, permanently hygienic and strong enough to resist accidental damage. And in the Kingstons, these telling practical advantages are combined with the finest modern design.

Standard vitreous china

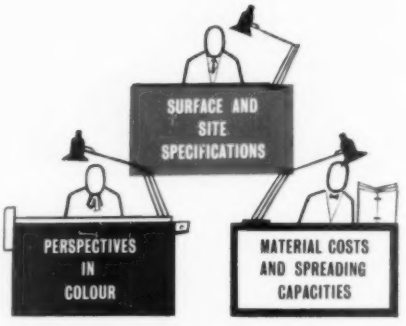
IDEAL BOILERS & RADIATORS LIMITED · IDEAL WORKS · HULL

478



YOUR SITE VALUE WILL GO UP!

More time can be spent on site by the Architect if he leaves the burdensome detail of surface specification in paint, colour schedules and technical supervision during progress of work to Paint manufacturers who *really* know their business. T. & R. Williamson *still* manufacture exclusively for the Trade and their service to the Architect is personal and polished. Just call in the House of Williamson when your plans are on the drawing-board and leave the rest to them. The House of Williamson employ their own team of Artists and can provide colour schemes of charm and distinction in perspective. They can also offer visual presentations of your own colour schedule, in brochure form, which are built up room by room to cover any contract and enable the painters to follow your wishes accurately and faithfully.



INTRODUCTION BY POST...

Write now for our comprehensive Brochure entitled "Architectural Service by the House of Williamson." For full information on the cost per square yard of material, in any process, just consult us. We may have a few ideas which will bring down the cost of that job!



T. & R. WILLIAMSON LTD.

The Paint People respected by Architects

Varnish and Enamel Works, Ripon, Yorkshire. Telephone: Ripon 32 and 852
"Ripon House," 84, High Street, HAMPTON HILL, Middlesex. Telephone: Molesey 1775
9, Glover Street, PRESTON, Lancs. Telephone: Preston 56270
73-77, Oxford Street, GLASGOW, C.5. Telephone: South 0825
8, Upper Maudlin Street, BRISTOL. Telephone: Bristol 26905
30, Stoney Street, NOTTINGHAM. Telephone: Nottingham 53061

THERE IS A DEPOT IN ALL IMPORTANT GEOGRAPHICAL AREAS



2



3

which had been sufficiently publicized to be not unlikely as a stimulus. The Bristol library was published as by H. P. Adams; for it was in Adams's firm that Holden now worked. He became a partner at just about this time. Before that moment his name did not appear, and even after it no distinction was made between the two men, a failing not unusual among bosses and senior partners.



4



5

Thus (e.g. in the case of the Midhurst Sanatorium, 3, published in great detail in the AR, XIX, 1906, 277, etc.) not only is the job assigned to Adams, but even the description was provided by him. Since, moreover, Adams was a hospital specialist, it is quite likely that Holden's contribution was of less importance. This Sanatorium certainly is one of the best major buildings in England of the near-modern last phase of Tudor adherence. It can stand a comparison with Voysey's houses of these years and Baillie Scott's Waterlow Court in Hampstead Garden Suburb.

While the sub-division of creative labour here must for the time being be left open, there can be no doubt of Holden's personality in a group of other buildings of the same years, buildings which clearly prepared the ground for his style in the twenties. The first of them is the addition to the Law Society in Carey Street, Chancery Lane, 4. This was designed already in 1902 and illustrated in the AR XIX, 1906, 120-7 (as Adams). This is a classical, evenly stone-faced job, with not a touch of Tudor or of the busy and pretty mixture of materials. At first sight it is simply of the Edwardian-Imperial classicism of those years; but there are again very personal touches. The small seated figures below the ground floor arch, it is true, may be inspired by Beresford Pite, but the rest is pure Holden. It is worth memorizing the details of the upper side windows and the blank niches above them. This adjustment of classical detail into basic cubic shapes was quite a novelty. The columns without entasis and the heavy attic are clearly in the same spirit.

It was going to be Holden's spirit from now on. Take 127-9 High Holborn of 1904 (AR XVII, 1905, 129, as by Adams) a monumental composition, 5 and 6, with a



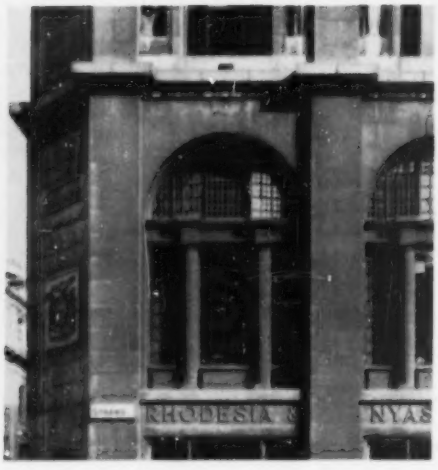
6



7



9



8



10

corner tower and with such details as the spheres at the foot of the tower, the columns without entasis and also the oddly Mannerist bits round the windows. The fashionable term Mannerism can here be used legitimately; for Holden indeed froze up and invalidated current classical motifs, which is what Mannerist architects did in the Cinquecento. The British Medical Association in the Strand, 7 and 8 (now Rhodesia House) followed. This was illustrated in *Acad. Arch.* XXXIV, 1907, 29, as by Adams and Holden. It was the building in which Holden introduced to a reluctant client and public Jacob Epstein as a monumental sculptor. The later disintegration of his figures has received much publicity. The motifs of the building need not be enumerated. It will be evident to anybody that this and 62 Oxford Street of 1909, 9 and 10, are by Holden and no one else. Ultimate confirmation lies in the major job of Holden's early fifties, the stations along the south extension of the Edgware Line designed in 1926, 11, and the Underground headquarters of 1927–29, 12.



11



12

The small stations are the more interesting as far as the exteriors go. For here Holden abandoned all columnar period-touches which the stations on the northern extension of 1923-24 had still exhibited, and produced stone-faced boxes with no relief but a minimum of cornices and the one motif of pillars carrying balls or spheres which divide the large central window of each station into a tripartite composition. It is twentieth-century architecture by elimination. What Holden had done from 1902 to 1909 by a hardening of classical motifs proves here to have been the beginning of a general reduction to basic geometry. One step further and Holden turned into the stream of the International Modern. Once more, perhaps it was Pick influencing him; perhaps he was never happy in it. One can see that the style of the School of Oriental Studies can be obtained by trimming these stations into something more conventional. It is the sort of direction in which many a man, radical in his youth, starts moving when he turns sixty. **N. Pevsner**

TOWNSCAPE

BURSLEM IMPROVED

Following the successful Norwich experiment (AR, *May*, 1959), *the second of the Civic Trust's face-lift schemes has been completed at Burslem*, the mother town of the six which amalgamated fifty years ago to form the 'Potteries' city of Stoke-on-Trent. As part of the jubilee celebrations, the city council instigated the choice of Burslem's centre for an experiment in urban rehabilitation, and once again Misha Black, of Design Research Unit, acted as co-ordinating architect on behalf of the Civic Trust.

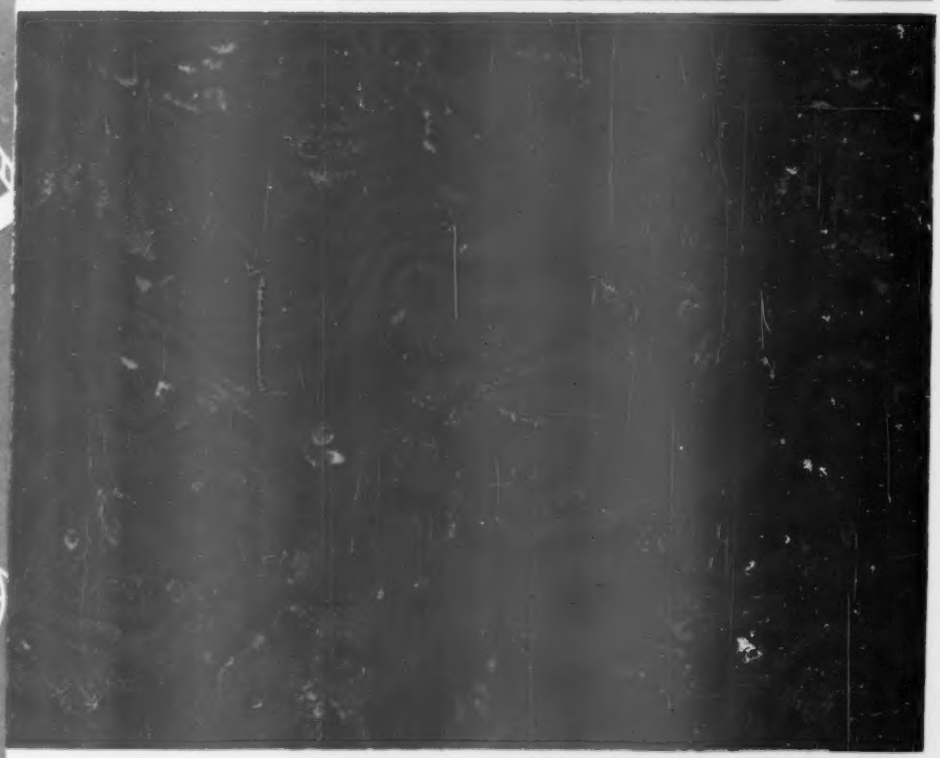
The basic problem was to re-create a visual focal point for Burslem, using a decaying triangular site in the town centre. This involved replanning the open area, which included a lavatory block, car park and gardens, and renovating surrounding properties. Two initial decisions regarding the central area were to form a base for the old town-hall so as to rescue it from traffic congestion (this necessitated the closing of a slip road on its east side, which in turn required the complete re-routeing of the central bus services and the realignment of pavements and kerbs) and to exploit the slope of the site by scooping out the southern half as a garden area on the long axis of the old town-hall and building up the northern half as a car park. A retaining wall, formed between these two level

CARPETS ?

Crossley Colour Advisory Service offers assistance in the selection of carpets for any furnishing scheme. Colour booklet 'Weaving the changes', of special interest to architects, gladly sent on request.

CROSSLEY CARPETS

created by craftsmen



Supplied through usual trade channels. For further information write to:
JOHN CROSSLEY & SONS LTD., DEAN CLOUGH MILLS, HALIFAX
famous for fine carpets since 1803

NOW EVERGLEAM

COUNTER TOPPING by GOODYEAR

starts a counter revolution



Flexible vinyl – curves easily to sharp radii



EVERGLEAM IS AVAILABLE IN A WIDE RANGE OF COLOURS PATTERNS AND TEXTURES.

EASY TO LAY

Evergleam cuts with ordinary scissors . . . rolls in one piece over splash back, counter top and edge . . . gives seamless square-edge facings . . . fixes permanently with contact or impact adhesive.

EASY TO MAINTAIN

No waxing. No scrubbing. A damp cloth keeps Evergleam sparkling clean. It resists dirt, scuffing, all normal hazards — stands the 'hot pan' test. And it won't chip or crack.

EASY ON EYE AND EAR

Evergleam is decorative . . . comes in an array of 23 sealed-in colours, patterns and textures. Evergleam is resilient . . . absorbs blows, turns strident clatter to soft murmur in restaurant, canteen, coffee-bar or store.

EASY ON THE POCKET

With all its good looks, Evergleam is cheaper to buy, cheaper to instal, cheaper to maintain . . . gives lasting wear at lowest cost. It's the topping for your next contract.

HAVE YOUR SECRETARY POST THIS COUPON

To: Goodyear Tyre & Rubber Co. (GB) Ltd., Wolverhampton.

Please send booklet AR4 describing Evergleam Vinyl Counter Topping

Name _____

Company _____

_____

Address _____

_____



1

1, *plan of the remodelled centre of Burslem, showing the surrounding properties included in the Civic Trust scheme.* 2, *the town-hall and surrounding area in* 1959, *before the scheme began.* 3, *a contrast to* 2: *the town-hall in its new setting, with gardens, shelters and designed floorscape.*



2



3



4



5

4, *the redesigned parking area.* 5, *area west of the town-hall, with specially designed street furniture.*

shields a south-facing seat-shelter built at a half-way level to overlook and be joined by a flight of steps to the garden area. This wall also links the lavatory block—sited in a predetermined position—to the rest of the scheme, and acts as a background to three new bus shelters by being extended at right angles up to the apex of the car park.

The garden area has two raised rectangular lawns, a brick drum with a removable canvas canopy to serve as a bandstand, and a flagpole. The remaining area is paved in pre-cast concrete slabs, contrasted with studded pavior bricks, these being a local traditional paving now little used. Four sycamores and two plane trees, all semi-mature and 25-30 feet high, were planted on the lawn areas. The existing concrete lighting columns were painted a dark grey with light grey lanterns, three were re-sited and one removed—the lantern being bracketed from an adjoining building. A granite memorial plaque to Arnold Bennett, who was born in Burslem, has been built into the retaining wall of the seat shelter. The Potteries Motor Traction Company gave full support to the scheme and the opportunity was taken to design three new bus shelters and ten new bus stop signs and to remove old barriers, time-tables and time-clocks.

As regards the immediate surroundings, following the precedent created at Norwich, a manual of principles was produced for the guidance of all working on the scheme. It set out a range of colours in two groups (one for rendered surfaces, one for detail), a range of sixteen type-faces, seven curtain and six shop-blind materials.



6

6, the new lavatory block and shelter. Below, another before-and-after contrast: 7, the north apex of the site, photographed in 1959; 8, also looking north, with new bus-shelter, retaining wall and properly organized lettering.



7



8

For work on the individual properties, the North Staffordshire Architectural Association nominated ten sector architects, who gave their service free as their contribution to the jubilee celebrations.

The properties were mostly shops, but also included pubs, banks, two small factories, a post-office, a garage, a covered market, and the new (1911) Town Hall. All 80 properties participated in the scheme, only 3 per cent redecorating without submission to co-ordination. Sixteen fascias were amended, six large advertisements and two hoardings removed, old signs cleared away, a disused area in front of a bank filled in and the additional pavement so gained dedicated to the city.

Misha Black was assisted by Anthony Wilkinson, also of DRU; typography was by Milner Gray and Ronald Ingles. DRU worked in close collaboration with J. R. Piggott, the city architect, J. W. Plant, the city reconstruction officer and P. Dyer, the chief park superintendent.

COUNTER-ATTACK

WEST CUMBERLAND 2

The rest is Whitehaven: in this remarkable town all the qualities, opportunities and dangers in West Cumberland come to a head. The situation of the town is—or was—lovely: a small basin with a flat bottom, open on the west to the sea. To the north-east deep woods still come almost into the centre of the town. Everywhere else there is a straggle with a rash of unsightly houses on the hills uncomfortably far from the shops. These are largely pre-war and must have been built at a time when Whitehaven was suffering badly from the slump. Now prosperity has come back, and much of the neglected but extraordinarily handsome middle is being gaily torn down. The replacements have been appalling.

Whitehaven was a boom town at the end of the seventeenth century, a mushroom growth which was none the less organized on extremely spacious, orderly lines by the local landowners, who had a keen eye for the main chance of the early Industrial Revolution, but clearly wanted their town to be something of a showpiece. The plan is a regular grid (varied a little round the market place), but the hills give an excellent containment, so that the streets have a real shape to them for all their straightness. Queen Street, for example, after going flat through the middle by St. Nicholas' churchyard (an enormous open space which could be much better used), climbs steeply and comes to a natural stop in front of St. James', 1. This excellent piece of design—excellent in detail as well as in general layout—is just now being destroyed, apparently without any awareness of what is being ruined. At present (though perhaps by now this should be in the past), a few houses

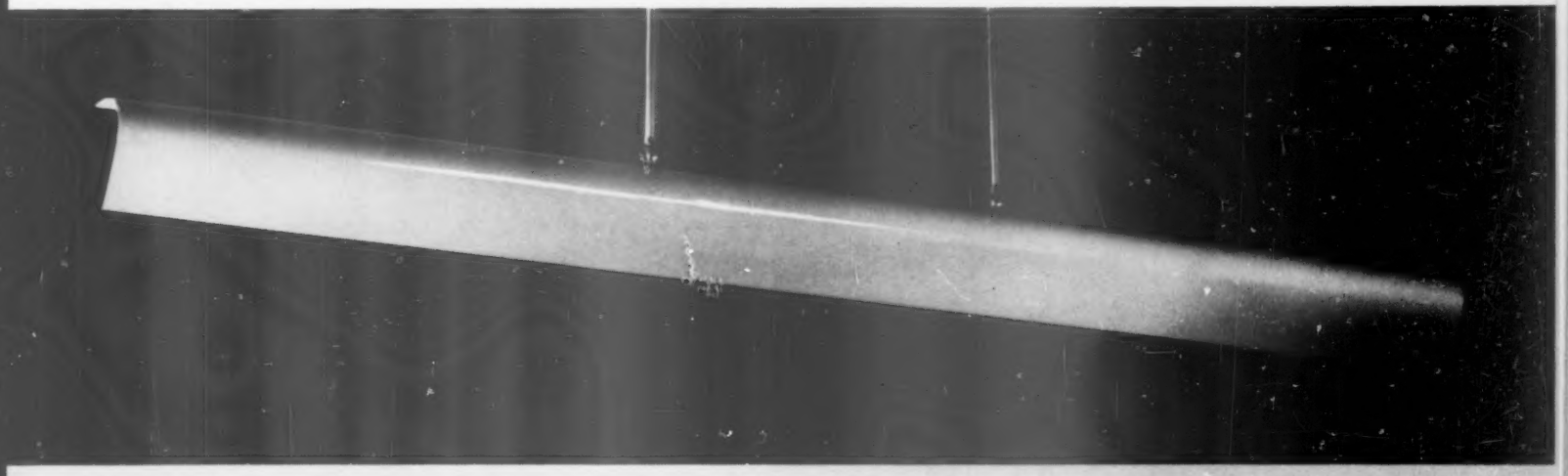


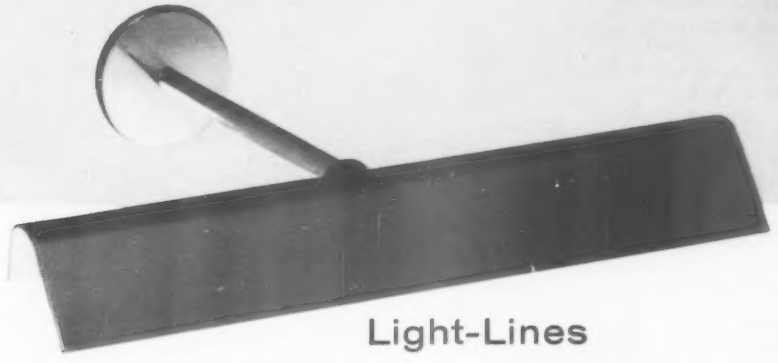
1

still group themselves round the church, 2, framing it in a dignified, neighbourly composition, which is socially as well as visually significant: the church is the natural focus for the houses. A little farther back, however, 3, the havoc wrought by a thoughtless layout is plain to see. The church fades into the background, the new flats turn their backs on it, have nothing to do with it, and the town really begins to fall apart. (Originally a rather

precision

Reflectors from 16″—11′ 4″ in un-broken lengths of $\frac{1}{8}$″ extruded aluminium. Continuous runs with only eight hairline joints per 100 feet. Alternative reflectors for use with tubular tungsten or fluorescent lamps. Pendant, wall bracket, table, bench or counter mountings, fitted with special knuckle joints providing adjustment of reflectors through 180°.





Light-Lines

A series by
Merchant Adventurers Limited
provides Architects and Engineers
with an outstanding range of
150 precision extruded aluminium
reflector fittings designed
for efficient directional lighting.
Current uses range from
chalkboard illumination in schools to
choir stall lighting in cathedrals.

MA LIGHTING

designed by Paul Boissevain, Dip. Arch. M.S.I.A.

A comprehensive leaflet giving full data and prices is available on request.

Merchant Adventurers Limited

Head Office: Hampton Road West, Feltham, Middlesex. FELtham 3686
London Showrooms: 43, Portland Road, London, W.11. PARk 1223



showers used to play tricks...



but not now



they're fitted with Leonard thermostatic valves

Of the 220 education authorities in this country alone, 209 (95%) specify Leonard thermostatic valves for schools.

Write for literature T.70

WALKER, CROSWELLER of Cheltenham



2



3



4

more sympathetic design had been prepared by the County Planning Department: no one seems to know why it was abandoned for the present monstrosity.) Moreover the flats themselves, 4, are aesthetically dreadful. They are presumably mass-produced, for in no other way can one account for the awkwardness of the way they stand on the ground, or the way in which the angle of the roof conflicts so tellingly with that of the surrounding houses. But absolutely nothing can excuse the collision of several different shapes of (all ugly) windows, the brash and pointless mixture of brick and roughcast, the chimneys that look as if they are sliding off the roof, the want of proportion in the façade. The final insult is that the admirable street



5



6

name-plates, which are such a feature of Whitehaven, 5, have been abandoned for a characterless, mass-produced object which could never be a feature of anywhere, 6. A halt should certainly be called to rebuilding here (and elsewhere) until some design more sensitive, more respectful to the town can be worked out.

Buildings of this kind, which would be lamentable under any circumstances, are particularly offensive in Whitehaven, which has in its old parts such a distinguished and such a strikingly individual architecture. Here one can see the West Cumbrian Georgian at its best—suave and urbane, as in the magnificent sweep of Scotch Street, 7, or stolid and down-to-earth in that very northern insistence on the heavy window-surrounds, and the small windows high under the eaves, 8. This is regional architecture as it should be, the moulding of a national style to suit local needs and local character. It lasted, in West Cumberland, until the late nineteenth century: now no one appears to have the faintest idea that it ever existed.

The centre of Whitehaven is still in fairly manageable condition. Certainly patching is sometimes necessary, but the houses are in the main very solid, and it is the County Planning Department's excellent policy to encourage self-help and the use of grants to give these fine buildings a much longer life. Indeed, there is a great deal of Whitehaven—as there is in most English towns—which simply needs a little looking after: I have, in fact, stayed in one house (in Roper Street) which has recently shown just what can be done for a fraction of the cost of a new building. But the looking after must be taken in hand.

Yet the really insensitive intrusions continue to appear: over-large, glossily chromium shop-fronts, of course, and, recently, a gruesome little pub opposite St. Nicholas' church, 9, which is an insult to the street, with its coy lettering, ugly windows, poor brickwork (in a stucco street), and the uncanny way in which it manages to break into all the floor, window and roof levels of both its neighbours at once.

Whitehaven's biggest problem, however, is the port area. The elaborate harbour is still the same one which gave the town its initial prosperity: it is now a scheduled monument. Round about, the buildings continue to give an impression of attractive bustle. And yet . . . behind those that still stand are the deserted lots, the mounds of rubble, sometimes intruding into the sea-front, as in the middle distance of 10. Perhaps a few of the remaining buildings can be saved, 11; one hopes so, for they are all excellent. And yet most of these beautiful buildings are doomed: for one thing a new, much needed road is to come through to the harbour, and for the rest one has only to look at them to see the work of neglect. So the old setting of the harbour will go. Is there any chance that its successor will be better than the flats near St. James? Perhaps some: it is unthinkable that the area could be rebuilt without becoming a Comprehensive Development Area. At least, then, there should be a master plan. But it will only work as a real live part of Whitehaven if there are people in Whitehaven ready to come forward and seize the opportunity in a manner sensitive both to the chance they have and to the tradition they have to live up to.

Curiously enough there are several quite pleasing new buildings in Whitehaven—a new hospital with much good detail in a rather featureless layout, an excellent GPO sorting office, and—the one encouraging *local* sign—the new Headquarters of the West Cumberland Farmers, 12 (architect R. P. Gray), a building of much charm (though perhaps not a noticeably *Whitehaven* charm), which unfortunately is prevented from having the impact it might by being rather tucked away. If buildings like this were to become a regular feature of the new Whitehaven, one could bear the loss of so much of the old more calmly. But will they? Whitehaven, as its original buildings made it, in their sane and civilized way, seems to have been a matter of some pride to its citizens. But now? Who knows? Whitehaven has a Civic Hall (also designed by Mr. Gray) which was begun some years ago with much civic aplomb. It is still only one-third built; and there are those who say it will never be more. It is not when towns are poor that the fear of the rates is strongest.

Ander Gomme



7



8



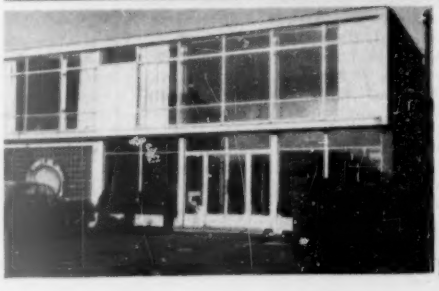
9



10



11



12

SKILL

CLIMATOLOGY AND ARCHITECTURE

Thomas Markus

When the International Society of Bioclimatology and Biometeorology held their second congress in London early in September they included for the first time a working group on urban and architectural problems. In this article Thomas Markus reports the discussions of this working group and assesses the standpoint of the architect with regard to this relatively new and important branch of science.

In the current preoccupation with costs, techniques and management aspects of architectural practice, the fact that one of the ultimate aims of studies in these fields is to provide people with comfortable environment is frequently overlooked. Many of the technical problems have become entirely the province of specialist engineers, whose training encourages design by physical measurement. Unfortunately often only one *quantity* is considered; air temperatures in heating, lumens in lighting; and *quality*, if considered at all, is thought of as a separate and relatively unimportant matter, having little bearing on the engineering calculations.

Detailed investigation of the impact of environment on people has become the province of scientists and physiologists, who, with all their skill, succeed mainly on narrow frontiers of knowledge and divide human experience into small, analysable parcels. Even the experimental psychologists, concerned with subjective reaction and behaviour rather than with physical facts, tend to work in isolated fields such as noise or colour, which in normal environment always exist in combination. This is not to belittle the value of this work. The best of it, such as the research on glare at the Building Research Station, has opened up new fields for designers and has made architects aware that the scientific study of subjective feelings is not only possible but highly rewarding when applied to design problems. Clearly it is for the architect to use his training in comprehensive, broad thinking to integrate the material provided by the specialists.

In this capacity as integrator it is reasonable for him to ask whether the studies in experimental psychology, for instance, can be architecturally misleading, seeing that they are each carried out in isolation, with their combined effect not studied in terms of experience. For example, studies on glare are conducted at fixed levels of thermal comfort; studies on noise are carried out at fixed lighting levels; thermal studies assume fixed lighting conditions. He must therefore rely on his own experience to judge, whether, for instance, certain lighting conditions are likely to be equally successful in noisy backgrounds and quiet ones; or whether people will feel colder in dark rooms than in brightly lit ones under identical thermal conditions. Here is a vast field for subjective experiment which may now be more important than further advances in particular aspects of environment.

Climatology

The architect's starting point, as that of the environmental scientist or engineer, is the outdoor climate. In a sense his task is to make the building shell an environmental filter which protects against extremes, allows sufficient variation for interest and stimulation and makes use of every natural phenomenon in order to reduce either the capital or running costs of the services which maintain comfort conditions in the building. This shell is an extension of the human organism; the thermal comfort of the body depends on air temperature, humidity, air movement and radiation exchange, 1; vision depends on illumination levels and adaptation; hearing on noise intensity and frequency. Similarly heat transfer through the wall depends not only on the air temperature difference on either side, but radiation exchange with sun, sky, ground and room surfaces, air speed, and moisture evaporation; the amount of light that enters depends not only on the size of windows but on the transmission of the glass (size and opacity of the lens); the sound which enters will depend on the response of the materials to the different frequencies and on the size and tortuousness of any direct paths.

There is a welcome growth of interest in microclimate—that is, the climate of one specific spot, although as yet architects are playing only a small part in these studies. Meteorologists, climatologists, biologists, physiologists and agricultural scientists have become aware that the comfort of human beings, the welfare of animal stock or the growth of crops can be predicted not by means of meteorological generalities and arbitrary mean values, but by specific climatic information, expressed on a statistical basis.

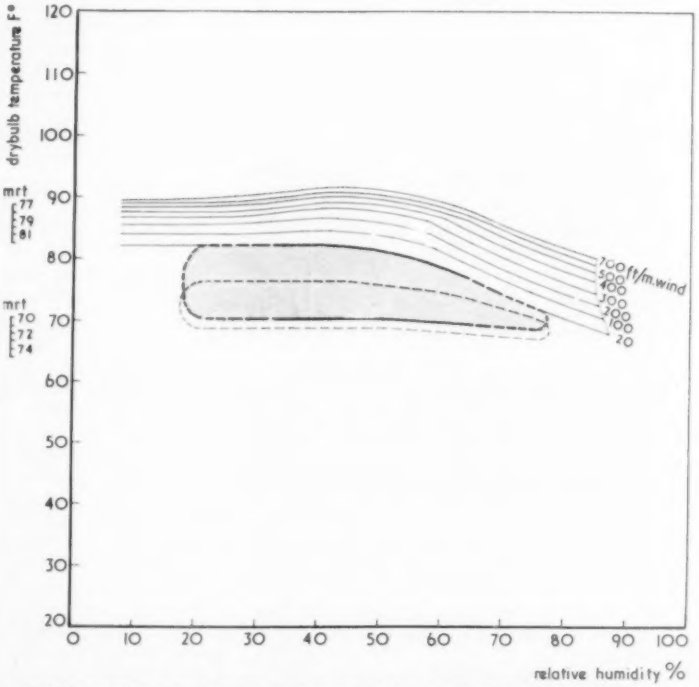
The International Society of Bioclimatology and Biometeorology, linking these experts from many countries, held its second Congress in London early in September. For the first time a working group on urban and architectural problems was organized and the significance of these climatic problems for architects and planners was discussed.

The first paper, by Professor Victor Olgyay, of Princeton University School of Architecture, showed some of the techniques for the presentation of climate data given in his book, *Solar Control and Shading Devices*. They included projections for the movement of the sun, drawn for every latitude, from which its position at any hour on any day can be found. A transparent overlay, orientated identically with a building under investigation, will give the plan and section shadow angles at the same moment, from which shading devices can be designed. To determine when a building needs shading, a chart is used which divides the year into 'overheated' and 'underheated' periods. Such charts, based on mean temperatures, are useful but may give a deceptive picture of the extreme conditions which are so important architecturally. The difficulty is to obtain suitable data on extremes from existing meteorological summaries. For example, the shading devices on the UNESCO building in Paris were designed on such a mean basis and failed to control solar heat gains in the spring and early summer warm spells.

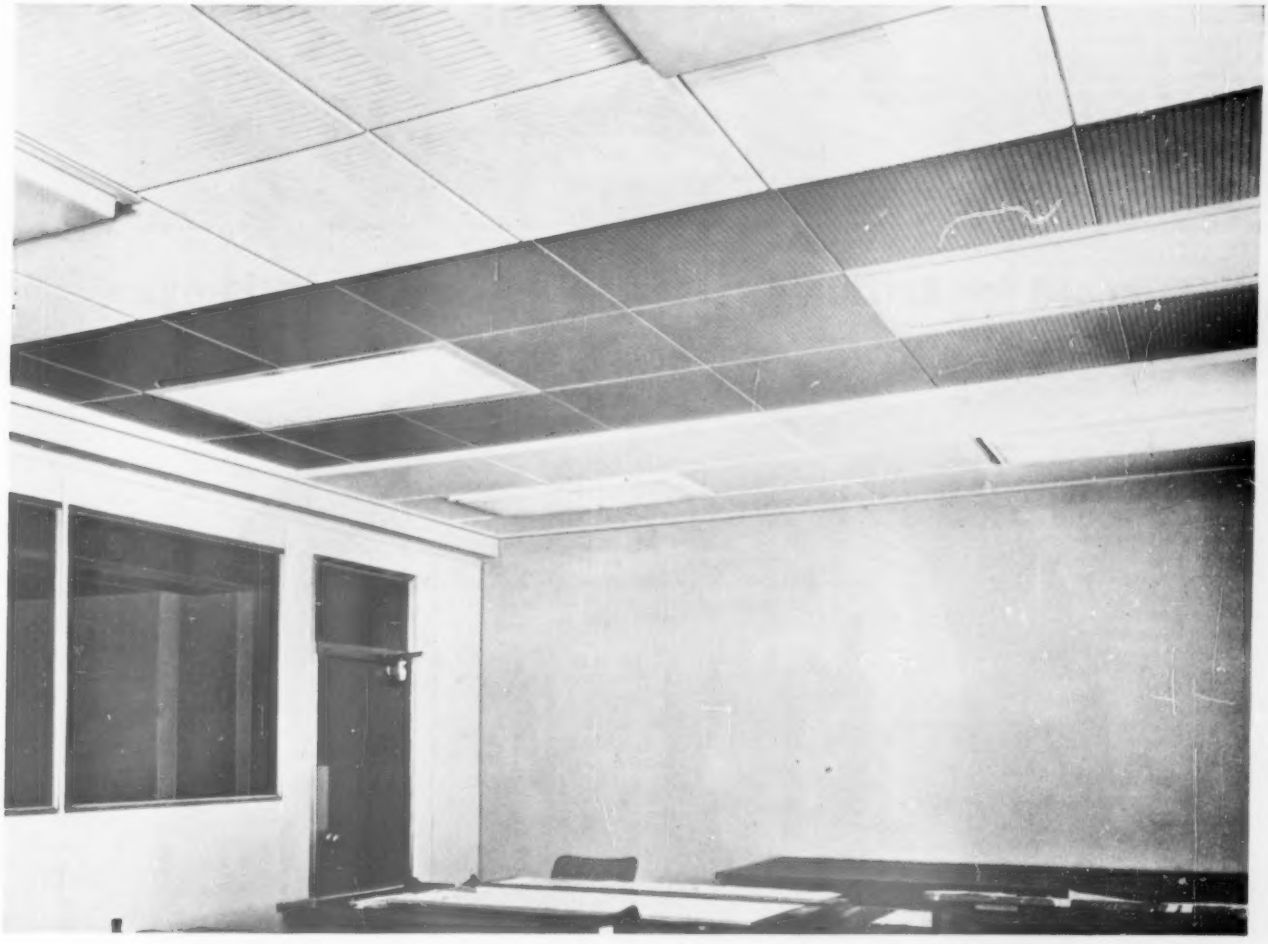
The limitations of average figures

Measurements of climate expressed by means of averages, either of time or place, can give entirely mis-

[continued on page 453



1, *simplified version of climatological chart reproduced from* Solar Control and Safety Devices. *Shaded area shows zone of comfort conditions in summer, the area within a lighter dotted line the zone of comfort in winter. The zone of comfort can be extended a limited distance below the zone by raising the mean radiant temperature (mrt) to the values given in the margin. Likewise the zone can be extended upwards by providing the given wind speeds or the mean radiant temperatures.*



FRENGER

HEATED AND ACOUSTIC CEILINGS

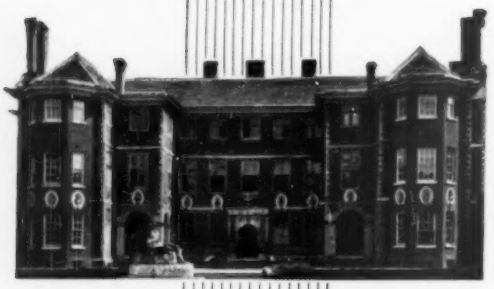
OFFER YOU

FREEDOM OF CHOICE

Freedom of choice enables you to use perforated or unperforated panels made of aluminium, steel, plaster or asbestos. It gives choice of heated, unheated or cooled ceilings and, because of its rapid response to automatic controls, freedom of choice of room temperature. All types of lighting can be incorporated together with a choice of panel colours.

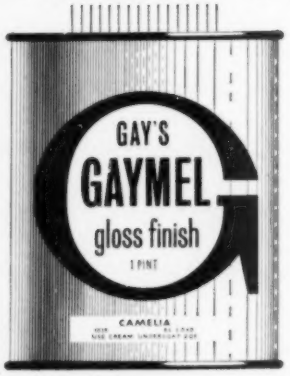
FRENGER CEILINGS LIMITED, 7-12 TAVISTOCK SQUARE, LONDON, WC1. *Telephone: EUSton 6084/8*
12 HARTER STREET, MANCHESTER 1. *Tel: Central 4612* · 65 BALFOUR AVENUE, BELFAST. *Tel: Belfast 21887/8*

Chosen for Britain's famous buildings ✻



GAYMEL—BRITAIN'S FINEST PAINT

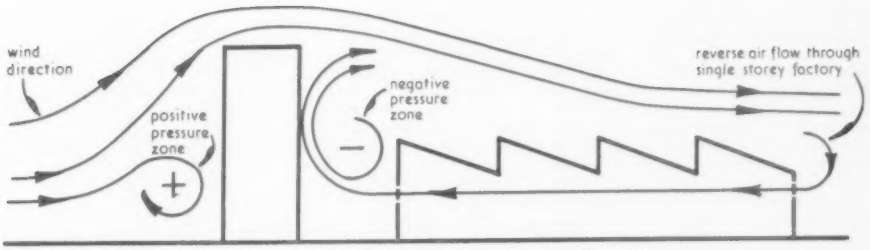
For over 100 years Gay's have been making the paints and finishes specially chosen for Britain's most famous buildings. Now GAYMEL the latest brilliant gloss finish from Gay's is taking its place as the number one choice for specifications where quality and outstanding protection are of vital importance. So specify GAYMEL.



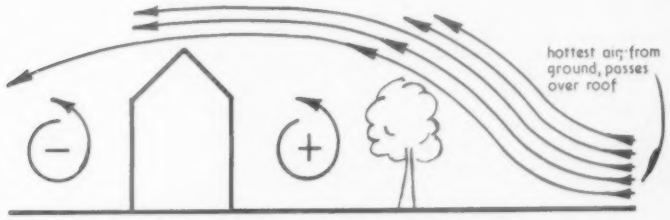
✻ **Ham House, Richmond.** Crown copyright photograph by courtesy of the Victoria and Albert Museum and the Ministry of Works.

R. GAY AND COMPANY,
93/97 New Cavendish Street, London W.1

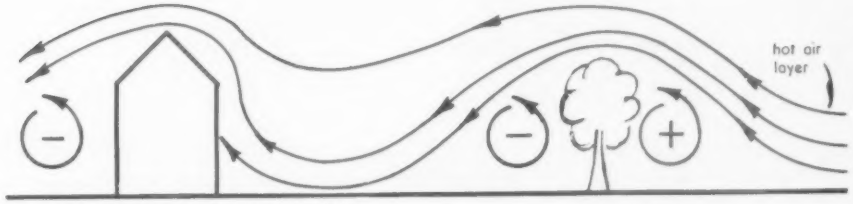
BELFAST · BIRMINGHAM · BRISTOL
GLASGOW · LEEDS
MANCHESTER · SOUTHAMPTON



2, low factory on lee side of tall building subject to air flow in reverse direction to prevailing wind.



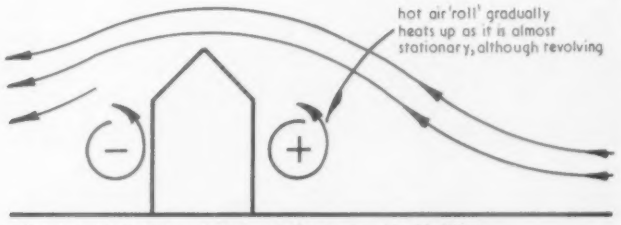
3a, tree close to building on windward side directs hot air overhead.



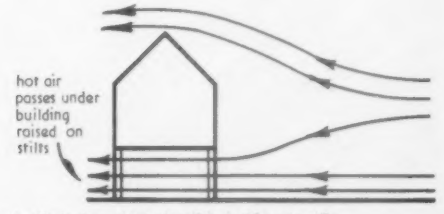
3b, tree in middle distance directs hot air into building.



3c, distant trees cause hot air currents to pass over building.



4a, hot air 'roll' at both lee and windward sides of conventional building.



4b, elimination of hot air roll by building on stilts.

continued from page 452]

leading results. Meteorological data are normally expressed in the form of mean values, annual or monthly, day, night or twenty-four hour. Whilst these are useful in determining average running costs—fuel consumption for instance—they do not indicate the degree of variation from the mean and the duration of the more extreme conditions. Two places with identical mean conditions and even with identical maxima and minima, can have very different climates and distribution of conditions. Climatic information must be expressed on a statistical frequency basis—'75 per cent of the daylight hours the illumination level is above X lumens per square foot'; '90 per cent of the days the mean air temperature does not rise above Y degrees and the daily maximum above Z' and so on.

Many graphical ways of representing this information are available, and from this data the designer can select his design conditions. A given heating plant may cope with 95 per cent of the conditions but to cope with 99 per cent may increase its cost out of all proportion. In heating particularly, where the thermal inertia of building structures plays a vital part, the information on the duration of the extreme conditions must be available. For instance, the number of occasions per annum when the temperature drops below X degrees for three days or more, two-three days, and one-two days. Once known, this information can lead to the design of the most economical wall, roof and floor construction.

Local climate

Dr. Dirnhirm, of Vienna, in her paper on 'The Local Climate of Cities,' showed how large the climatic variations within the confines of a city are. Prevailing wind speed and direction, the location of industry and residential zones, and the presence of hills and wooded country immediately behind the latter, mean high build-up of both temperature and atmospheric pollution in the Viennese residential zone. Local climatic variations of this kind can alter not only mean wind speed and air temperature from one part of the city to another, but also solar radiation intensities, humidity and ground radiation.

The turbulence and funnelling effects of buildings, streets, rising ground and trees can, as was later shown by Professor Page, of Sheffield University, reverse the wind direction through a building from the mean direction as given by the meteorological station at the same moment. A low building in the lee of a tall one will have a negative pressure zone on the 'windward' side, 2, hedges and trees create turbulence patterns which can be more critical when they are a middle distance away than when they are close or far, 3; raising buildings on stilts has a sound scientific basis in the tropics to avoid the hot air 'roll' that otherwise accumulates at the base of the building, 4; and wind speed (and hence heat transfer) varies considerably over the height of a tall building.

Other speakers from the British Meteorological Office gave the results of measurements in London of variations of air temperatures in streets from road to eaves level—10°F. or more at night; variations in air temperatures when the 'sea breeze' effect causes a cyclic shifting of warm air over London from one end of the city to the other; variations

of radiation between Kew and Kingsway.

It was also shown how, when a new building is erected, it immediately alters the microclimate of the site. It introduces shading effects, it will alter wind patterns, the planting of trees or grass round it will affect ground radiation as well as humidity; the radiation it absorbs and later releases will affect nearby buildings. A new town, built in open country, will cause large overall changes in local climate. Even the introduction of a central city smokeless zone has effects on radiation intensities and daylight statistics.

The designer may well throw up his hands in despair, since if even general climatic information from airport stations and Ministry roofs is scarce, there is nothing at all relating to the specific sites where he is called upon to build. The answer, first, is that more research will gradually fill in the details of this picture. Measurements of the microclimate of cities, and detailed measurements in and around single buildings will establish many of the general principles. Second, the realization that large variations exist both in time and place will introduce a healthy scepticism into the use made of mean conditions measured at remote country spots, parks or airfields. The corrections to be applied to these may not be known numerically, but only in direction—increase or decrease. For instance, night heat losses in tall buildings will be larger on the higher floors than the lower ones; planting on the windward side will increase the humidity of the air coming into the building; concrete pavements on the south side (in our latitudes) will reflect a considerable amount of solar radiation.

Wind and sun

Professor Robinson and M. Peleg, of the Haifa Technical Institute, Israel, showed a simplified method of calculating the amount of incident radiation on building faces by using the diagonals of rectangular blocks instead of separate faces. They also described experiments carried out in Israel on houses with various types of wall construction and different sized windows to determine the transfer of solar heat. The combination of wind, temperature and sunshine can produce some unexpected results; for instance where there is a regular increase in wind in the afternoon and evening, rooms with east-facing windows may be less comfortable than those with west-facing ones, which admit the sun's energy at a time when cooling winds help. In areas where there is little wind, west-facing windows cause overheating, since the air temperature is higher when the sun reaches them, and they admit heat into the interior at the same time as the heatwave from the solid east walls also emerges, having been delayed by the construction for 6–8 hours. Much of the information from Israel has been put to practical use in various devices which use solar energy; house heating, cooking and sea-water distillation are perhaps the most important.

Thermal inertia

M. Dreyfus, of the Centre Scientifique et Technique du Bâtiment, spoke of his experiences in French North and West Africa on climatic control in buildings. His most important contribution was a detailed treatment of thermal inertia. The time-lag which various wall and roof materials introduce between the occurence of a peak thermal condition outside—say maximum radiation on the wall—and its transfer to the inside is a product of their specific gravity, specific heat and conductivity. This 'fly-wheel' or inertia can be used to control interior conditions only, of course, in climates with appreciable diurnal variations—the hot dry climates. In hot humid zones there is little day/night temperature variation and relief must be obtained by making maximum use of the cooling effect of breezes. The principle of inertia has long been empirically recognized in the design of earth houses, where wall thicknesses usually give a 6-10 hour time-lag, thus transferring peak conditions to the interior in the evening and during the night, when outside air temperatures are so low that heating would be needed if it were not for the heat stored and given up by the walls.

Ideally the inertia of each part of the structure should be varied to ensure that the heat wave is transferred by each at a different time, not to coincide with maximum gains through windows, and to occur spread out throughout the cool evening and cold night. Various simplified techniques are available to make use of say three basic wall types for the whole building. Insulation materials, too, play a part; although they have a low inertia, they can be used on the inside of more massive materials to reduce the amount of heat given off to the room and increase heat losses to the outside during the night.

Conclusion

It is certain that knowledge of the microclimate will be an important aid to building economy and to the providing of a better climate indoors. It is also certain that the architect has an important part to play in the development of architectural bioclimatology both as an integrator of studies done by specialists and as an initiator of the further studies needed for the build-up of the science. In fulfilment of this second role, could not architects give a lead by encouraging the keeping of simple records on their completed buildings?

THE INDUSTRY

Glazed roof ventilator

A logical development of roof extract ventilators is to combine ventilation and daylighting in one unit. This Greenwoods and Airvac have done in the form of their 'Glazed-Top Roofline Extractor,' 1. The unit, which is only 14¼ in. high, is constructed in heavy gauge hardened aluminium sheet with riveted and welded joints. The glazed top is reinforced cast wired glass secured to the unit with clamping strips. Within the unit are fibre glass shutters which may be manually or thermostatically operated. The object of the fibre glass, of course, is to ensure that closing the shutters does not cut out the light, although some loss of light is inevitable. The shutters enable adjustment of the amount of ventilation according to the conditions required.

Greenwoods and Airvac Ventilating Company Limited, Beacon House, Kingsway, London, W.C.2.

Melamine laminate

A few years ago Fablon Limited brought to the market their self-adhesive plastic covering in a range of colours and patterns. They have now introduced a melamine laminate rigid sheet called *Fablonite* which brings them into competition with one or two similar products well known to architects. The standard sheet is 9 ft. by 4 ft. nominal by $\frac{1}{16}$ in. thick and the standard surface finish is matt, although glossy surfaces will be supplied if required. Special sizes, 8 ft. by 4 ft. and 10 ft. by 4 ft., also will be supplied. There seems to be an almost unlimited range of patterns, too many of them imitating the surface appearance of other materials, notably wood and stone. This is a fault of melamine laminate manufacturers as a whole and it is a pity that more scope is not offered designers to experiment with surface patterns without reference to imitation effects. Apart from the colours in the patterned sheets *Fablonite* is produced in 19 plain colours, which include black, white and charcoal. The basic price for the standard range is 3s. 9d. per sq. ft. and for the plain colours 4s. 3d., which means that *Fablonite* compares favourably in cost with other melamine laminates.

Fablon Limited, 49 Park Lane, London, W.1.

Aluminium information

ICI has issued two booklets on 'Impalco' aluminium. The first, entitled *Technical Data*, gives chemical and processing details of the various grades of aluminium alloy produced by the Imperial Aluminium Company

[continued on page 456



1, *the Greenwood Airvac 'Glazed Top Roofline Extractor.'*



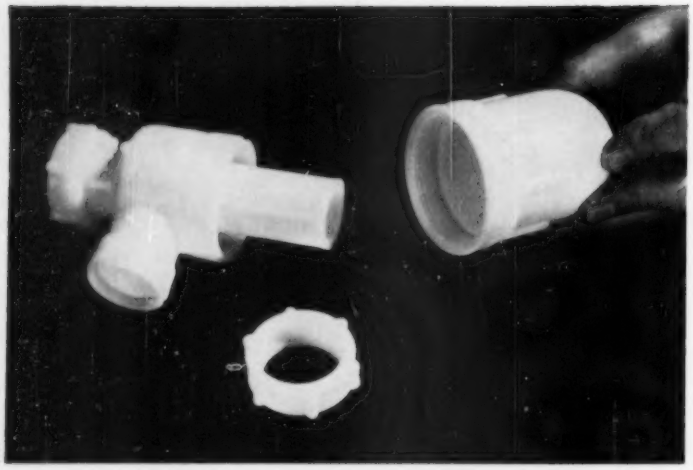
Tyler's are recognised throughout the country as leaders in the field of precast reinforced concrete structures. Many types of industry have found that Tyler structures mean permanence combined with the very minimum of maintenance. Quickly erected, they're ready for use immediately. Tyler's provide either the structures alone, or complete roofing, glazing, and insulation. For full details, write to:

TYLER

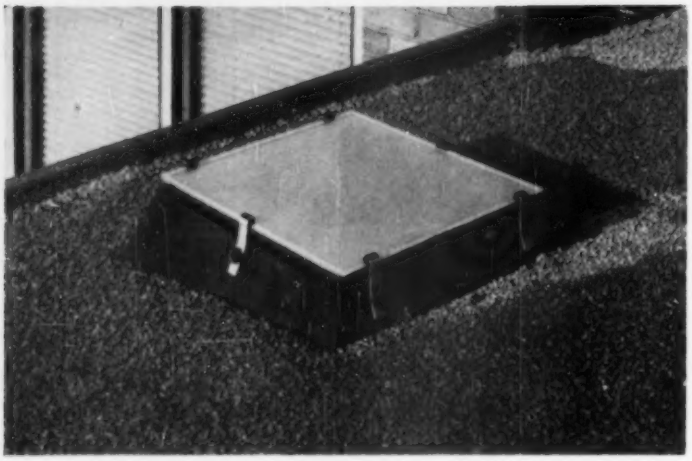
E. W. TYLER & CO. LTD.

Manufacturers and erectors of precast reinforced concrete structures

Dept. I-31, Cannon Lane, Tonbridge, Kent. Tel: Tonbridge 4024 (6 lines) · Dept. I-31, 5, Queen Street, Manchester, 2. Tel: Blackfriars 0680



2



3

continued from page 454]

Limited. It describes the three grades of commercially pure aluminium, Impalco P3, Impalco P5 and Impalco P10, under such headings as *Characteristics* (P10, for example—strength: low; ductility: good; machinability: poor; resistance to atmospheric attack: very good, etc.), *Specifications* (the BSS references), *Composition*, *Physical Properties*, *Thermal Treatment* and *Other Typical Values*. At the beginning of each description is a brief statement of the applications of the particular alloy. It deals in similar fashion with other alloys produced by the company—non-heat-treatable, heat-treatable and others. The value of the booklet lies in its good layout, enabling quick, easy reference.

The second booklet contains details of Impalco profiled sheets for building and is equally well set out, dealing both with troughed and corrugated sheets and including a description of the KSF cladding system as well as general notes on installation.

Imperial Aluminium Company Limited, Millbank, London, S.W.1.

Polythene waste traps

Plastics have long since invaded the building industry and the use of polythene tubes in the plumbing trades is more prevalent than even a year ago. The new range of bottle traps, 2, is moulded in high density polythene and is available in off-white, white and cream, the colours being permanent and fade-proof. The bottle traps are suitable for all types of waste pipes and provide a 3 in. water seal. They are claimed to resist both frost and boiling water, most chemicals, oils and solvents, and to be unaffected by detergents. Available from plumbers' merchants, their prices compare with conventional traps.

McAlpine & Co. Ltd., Kelvin Avenue, Hillington, Glasgow, S.W.2.

Rooflight

The rooflight, 3, known as the Plylite, is made with a double skin reinforced glass fibre kerb, the outer skin either black or green and the inner white or grey. The kerb slopes to give the fall to the top of the rooflight and is flanged to provide a fixing down into the roof and to enable lapping of the roof membrane. The material is self-coloured and painting, therefore, is not necessary. The manufacturers claim a U value of 0.55 for the kerb. The top of the rooflight consists of two layers of diffusing Plyglass with a U value of 0.7. This is laid on a plastic gasket seal at the top of the kerb and held in place by means of stainless steel slotted brackets screwed into the outer skin of the kerb. Sizes of finished trimmed openings to suit standard rooflights are 21 in. by 21 in., 29 in. by 29 in., 42 in. by 29 in., 45 in. by 45 in. and 56 in. by 29 in.

Plyglass Limited, Edinburgh Way, Harlow, Essex.

Thermal acoustic ceiling panel

A new ceiling panel which is claimed to provide thermal insulation as well as sound absorption has recenty been introduced by the Bowaters organization. The panel, 4, is made to suit a 20 in. module. It

[continued on page 458

2, *polythene bottle trap by McAlpine & Co. Ltd.*
3, *the Plylite rooflight.*



SOUND PLANNING IS SECURELY BASED

ON

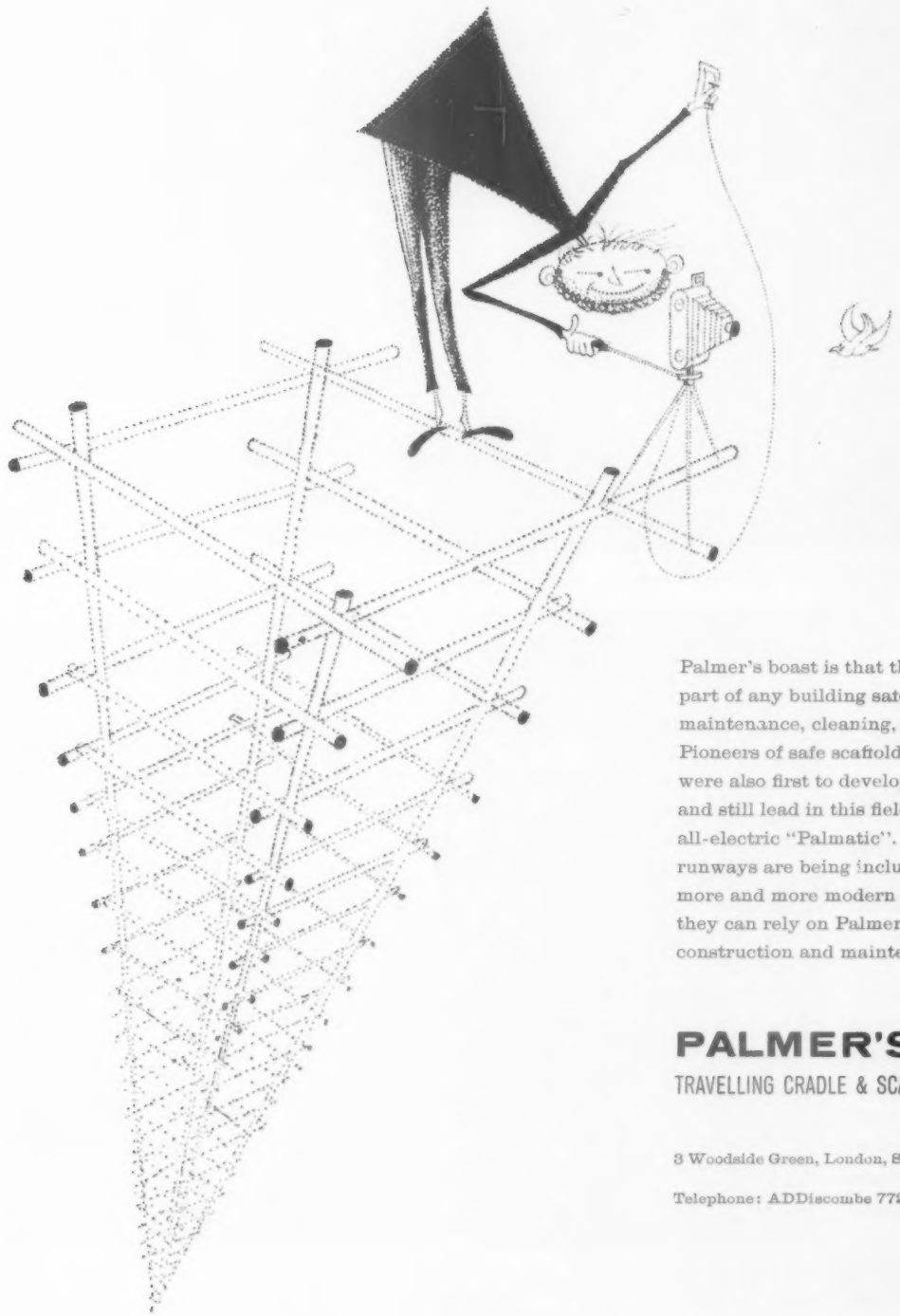
WEST'S SHELL PILING SYSTEM

The modern method combining pre-cast and cast-in-situ piling, in which the pile is firmly driven to a secure set in the load-bearing stratum, without fatigue in the pile core.

Write for full details to:
WEST'S PILING & CONSTRUCTION CO. LTD.
Foundation Specialists · Design and Construction in Reinforced Concrete
BATH ROAD · HARMONDSWORTH · MIDDLESEX · TEL.: SKYPORT 5222
Branches in London · Bristol · Birmingham · Manchester · Glasgow
Australasia: West's Shell Piling (A/sia) Pty. Ltd., Melbourne, Sydney, Adelaide & Wellington, N.Z.
France: Compagnie Générale de Construction de Fours, Paris.
A MEMBER OF WEST'S GROUP OF INDUSTRIES

A8

People trust Palmer's



Palmer's boast is that they can make any part of any building safely accessible for maintenance, cleaning, construction or repair. Pioneers of safe scaffolding since 1880, they were also first to develop the travelling cradle and still lead in this field with their new all-electric "Palmatic". Palmer's permanent runways are being included in the design of more and more modern buildings. People know they can rely on Palmer's long experience of construction and maintenance equipment.

PALMER'S

TRAVELLING CRADLE & SCAFFOLD CO. LTD.

3 Woodside Green, London, S.E.25

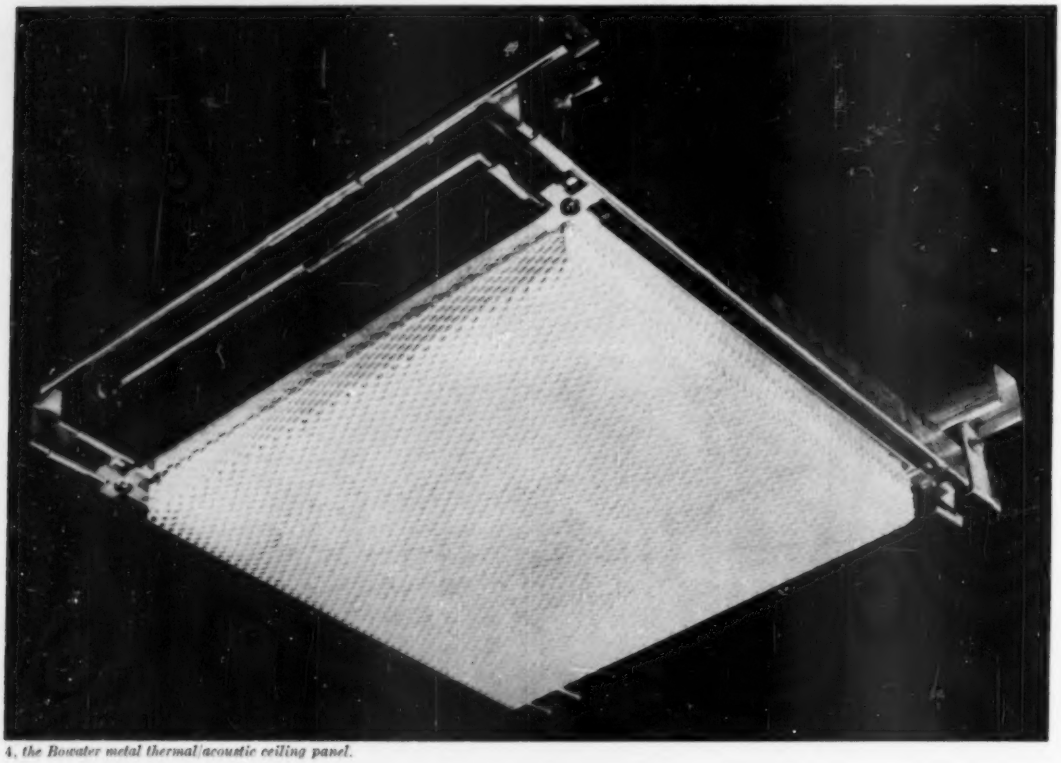
Telephone: ADDiscombe 7721

continued from 456]

comprises a tray of expanded metal, 1 in. deep, held on all four sides by a spot-welded, tinplated steel frame and filled with mineral wool. The latter is backed with asbestos paper and between it and the mesh tray is a sheet of white p.v.c., not exceeding 0.0015 in. thick. The expanded metal is zinc plated and finished in a range of colours.

There are three alternative methods of fixing: 1, direct to timber battens, using metal crosses and woodscrews to support the corners; 2, direct to concrete soffit, using channel and cross plate assemblies; 3, by the Bowater rigid metal fixing system. This consists of a cross grid of main and secondary channels. Main channels are spaced at up to 8 ft. centres and suspended by hanger rods from beams or floor slabs at centres up to a maximum of 6 ft. Secondary channels are spaced at module centres and connected to the main channels by a pinch bolt assembly. The ceiling panels are then fitted to the secondary channels with cross plate assemblies at the corners. The panels have passed a 2-hour fire test at the Fire Research Station. Cost of a suspended ceiling, supply and fix, is between 45s. and 50s. per square yard.

Building Products Division, The Bowater Organization, Bowater House, Knightsbridge, London S.W.1.



4, the Bowater metal thermal/acoustic ceiling panel.

Gas handbook

During the last four years technical supplements have been appearing in *The Architect's Journal* dealing with the different aspects of the use of gas and coke. These supplements have been prepared by the gas industry, but, if their ultimate object is to encourage people to use more gas, the method chosen is to make it easier for architects and builders to choose and instal it. The supplements have now been gathered together into the *Gas Handbook for Architects and Builders* which is available free from the Gas Council or from the Area Boards. The handbook is mainly (but not exclusively) concerned with the use of gas and coke in the domestic field, with space and water heating; but there are excellent sections on flues and installation, and others on the planning of communal laundries, and kitchens for public catering. This

[continued on page 460

Polynesia in Mayfair with carpet made specially

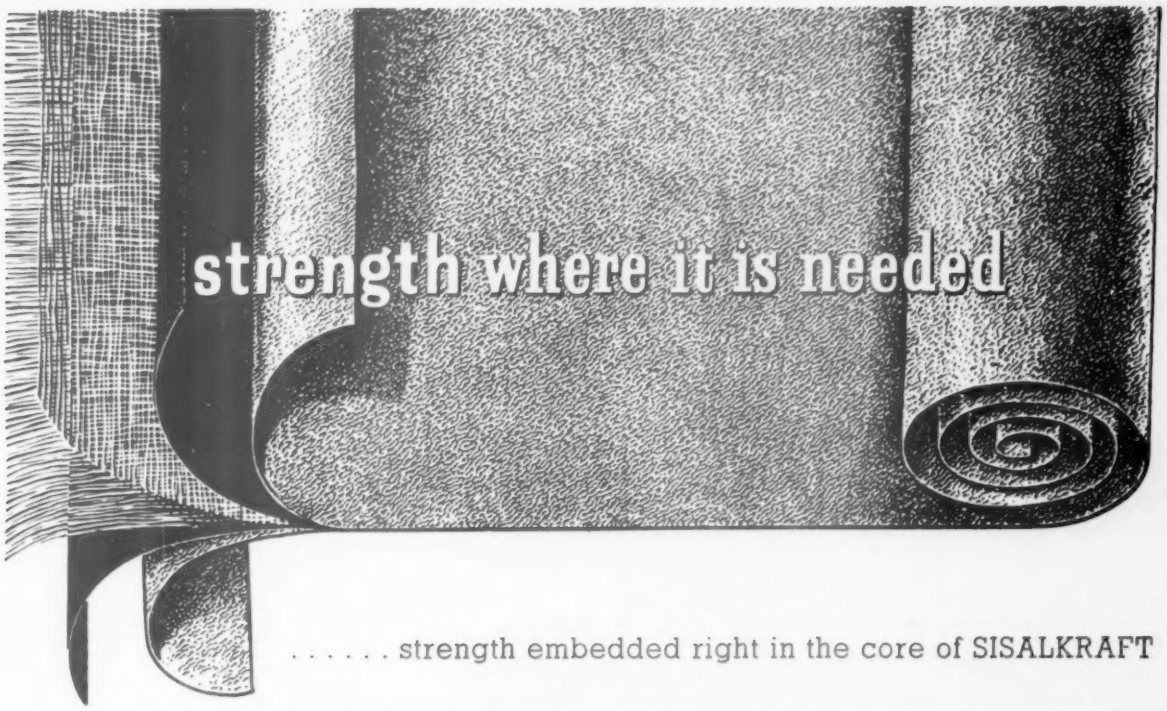


The new 'Beachcomber' Restaurant in Mayfair serves the best and most exotic Pacific foods, and, at a cost of £145,000 has been designed and decorated in Polynesian style. The carpet was made to match the Gauguin/Somerset Maugham atmosphere. Carpet Trades of Kidderminster evolved a pattern of interlacing bamboo lattice work, in shades of tobacco brown, with highlights of blue, amber and red. They wove it in "Karinda" fine woollen Wilton quality.

Carpet Trades Limited of Kidderminster

Supplied through G. B. Kalee of London.

(xc)



. . . . . strength embedded right in the core of SISALKRAFT by the unique reinforcement of tough, nonhygroscopic, unspun sisal fibres that are laid in both directions and sealed in two layers of high grade bitumen and covered by outer sheets of stout kraft paper. This 6 ply construction gives the tough, supple strength of SISALKRAFT, making it easy to handle yet exceptionally tear resistant and proof against moisture and damp.

SISALKRAFT TRADE MARK

the supreme building paper

A PRODUCT OF BRITISH SISALKRAFT LIMITED

Please write for information and samples to the SOLE DISTRIBUTORS:

ESTABLISHED OVER A CENTURY **J.H.SANKEY & SON LTD.**

ESSEX WORKS · RIPPLE ROAD · BARKING · ESSEX | PHONE. DOMinion 6666 | GRAMS: BRICKWORK · BARKING

continued from page 458]

last is (apart from the MOE Bulletin) almost the only reference on this subject for architects and is, therefore, all the more valuable.
The Gas Council, 1, Grosvenor Place, London, S.W.1.

Handbook on floor warming

Early this year the Electrical Floor Warming Association organized a symposium of flooring manufacturers to try and tap all the sources of knowledge on the characteristics, problems and techniques of construction involving electric floor warming. Scattered through the industry are many individuals, firms and associations with accumulated experience of the subject, but architects and builders have very little published information available to them. An attempt to fill the breach is now made by the Electrical Development Association in the form of a booklet ponderously entitled *Notes on the Construction and Finish of Floors that are to be Electrically Warmed.*

It is made clear at the outset that the booklet is intended not to tell you about electric floor warming but to enunciate the principles of construction and finishing most likely to ensure a satisfactory installation. Inevitably a few contentious statements appear, for example, that only certain hardwoods (six are listed) behave satisfactorily in both block and strip over floor warming and, again, that the best place for the damp-proof membrane in layered construction is on top of the base or sub-floor with the insulating layer on top of it. Layered construction is a term used in the booklet to describe that construction in which the structural or sub-floor has already hardened before the heating cables and the screed are laid. But much useful information is included and is supplemented by several photographs and drawings. The booklet is likely to prove helpful not only to architects and their assistants but to site agents, general foremen and clerks of works.
Electrical Development Association, 2 Savoy Hill, London, W.C.2.

CONTRACTORS etc

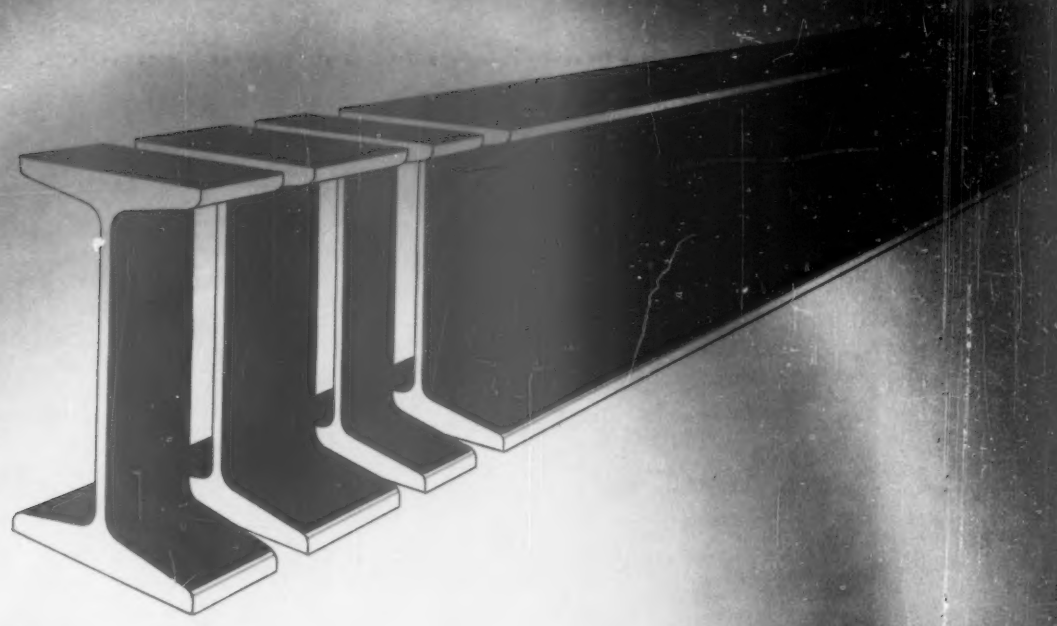
Church at Bow Common, London. *Architect:* Robert Maguire. *Contractors: Floors and pavings:* Brookes Ltd. *Metal roofs, etc.:* L. Whittaker & Co. (London) Ltd. *Asphalte roofs:* Pilkingtons Asphalte Co. *Structural steelwork:* S. W. Farmer & Son Ltd. *Lightning conductor:* J. W. Gray & Son Ltd. *Bricks, acoustic ceiling bricks:* Cape Building Products Ltd. *Aluminium roofing:* Fural Ltd. *Double glazing to lantern:* Plyglass Ltd. *Sanitary ware:* Adamsez Ltd. *Sinks:* The Stainless Steel Co. *Paint:* Leyland Paint & Varnish Co., Vitrex Ltd. *Font bowl:* Doulton Industrial Porcelains Ltd. *Lighting glassware:* J. Windart & Co. *External cross and flashings:* S. Ward & Co. (Bow) Ltd. *Slate tops to altars:* Bow Slate & Enamel Co. *Bells:* Mears & Stainbank. *Pitchfibre rainwater pipes, drains:* Key Engineering Co. *Light fittings:* Frederick Thomas & Co., GEC Ltd. *Precast concrete flags:* Tarmac Ltd. *Wood wool decking:* Halcrete Ltd.

Palace in the Persian Gulf. *Architects:* Farmer and Dark. *Sub-contractors: Glass mosaic:* Saivo, Milan. *Aluminium windows:* Quicktho Engineering Ltd. *Anodized aluminium screens and balustrade frames:* James Gibbons Ltd. *Sanitary fittings:* Ideal-Standard. *Vitreous floor tiles:* Ifo, Sweden. *Vinyl floor tiles:* Semtex Ltd. *Exterior lighting and floodlighting:* Atlas Lighting Ltd. *Interior lighting:* Atlas Lighting Ltd., General Electric Co., Troughton & Young Lighting Ltd., Merchant Adventurers Ltd., Allom Heffer Ltd., Fredk. Thomas & Co., Rotaflex (Gt. Britain) Ltd. *Acoustic tiles:* Treetex Acoustics Ltd., Armstrong Cork Co., Newalls Insulation Co. *Kitchen equipment:* Regional Manufacturing Co., Ezee Kitchens Ltd. *Pool, pumping and filtering equipment:* Paterson Engineering Co. *Paint:* Walpamur Co., Cellon Ltd. *Flexwood:* Alexandria Trading Corporation Ltd. *Wallpaper:* Arthur Sanderson & Sons Ltd. *Radio distribution system:* Belling & Lee Ltd. *Anodized aluminium trim:* Ajax Architectural Products Ltd. *Cinema seating:* Cox & Co. *Prefabricated plumbing:* Econa Modern Products Ltd. *Adhesive:* Evode Ltd. *Lightning conductors:* W. J. Furse & Co. *Motorized curtain tracks for salon and dining room:* Hall & Dixon. *Sliding door gear:* A. Hill Aldam & Co. *Electric switch plates and boxes:* M.K. Electric Ltd. *Coloured sheet glass:* Pilkington Bros. Ltd. *Blinds and curtain tracks:* Danaura Ltd. *Clocks:* Baume & Co. *Furniture, carpets and curtains:* Hampton Contracts Ltd. *Furniture:* E. Gomme Ltd., Hille of London Ltd. *Fabrics:* Edinburgh Weavers, Vetrona Fabrics Ltd.

Secondary School, Dundee. *Architect:* Robert Dron. *General contractors:* Truscon Ltd., Charles Gray (Builders) Ltd. *Sub-contractors: Switchgear:* H. A. McQueen & Co. *Electric floor warming:* Thermodare (Great Britain). *Limpet asbestos ceiling finishes:* Newalls Insulation Co. *Floor finishes:* Numire Ltd., A. M. McDougall & Son Ltd., Marley Tile Co., Wm. Brand & Sons. *Curtain walling and windows:* Standard Maclean Ltd. *Lift:* Wm. Wadsworth & Sons Ltd. *Folding doors, sliding doors:* Bolton Gate Co. *Cloakroom racks, stair balustrades, fencing:* Barnet & Morton Ltd. *Water purification for pool:* The Peterson Engineering Co. *Roof finish:* Wm. Briggs & Sons Ltd. *Tennis courts:* The En-Tout Cas Co.

Terraced factories, Basildon New Town. *Architects:* J. M. Austin-Smith. *General contractors:* David Chaston Ltd. *Sub-contractors: Flooring:* Rubolin Flooring Ltd. *Fibreboard:* Tentest Fibreboard Co. *Cement enamel finishes:* Robb's Cement Enamel Finishes Ltd. *Bricks:* Henry J. Greenham Ltd. *W.c. compartments:* Venesta Ltd. *Wrought steel windows and patent roof glazing:* W. James & Co. *Sliding door gear:* Henderson Ltd. *Gas services:* North Thames Gas Board. *Sanitary ware:* T. A. Harris Ltd. *Electrical installation:* Artisans Ltd. *Ironmongery:* H. & C. Davis & Co.





...successive cuts in cost

Reductions in the cost of steelwork have recently been made possible by the availability of sections of increased structural efficiency, and new methods of design and fabrication have made further economies possible.

The adoption of higher working stresses has brought a further reduction in steel and labour, with corresponding reduction in cost.

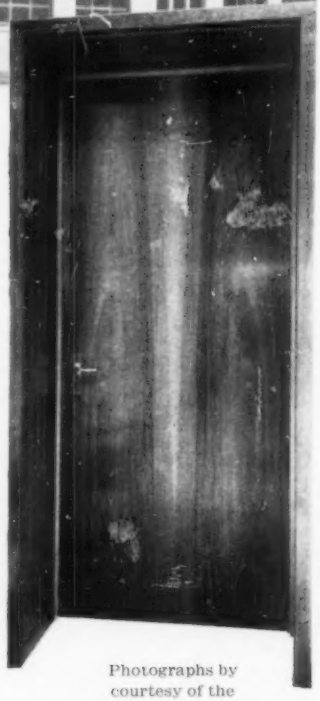
And that is not all. The cost of steel per ton is now lower. So the cost of steel-framed buildings goes down and down.

STEELWORK SUITS EVERY TYPE OF BUILDING
AND IS EASILY ALTERED OR ADAPTED

BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION
ARTILLERY ROW, WESTMINSTER, S.W.1

B·C·S·A STEEL STRENGTH SECURITY





Aristocrat Doors Grace City of Cardiff Municipal Offices

AT GREYFRIARS ROAD

Doors meticulously made to the architect's specification – doors at one with their environment – doors made as only Hills make them. More and more important projects and public buildings demand the dignity and dependability of Hills ARISTOCRAT doors.

Hills

ARISTOCRAT

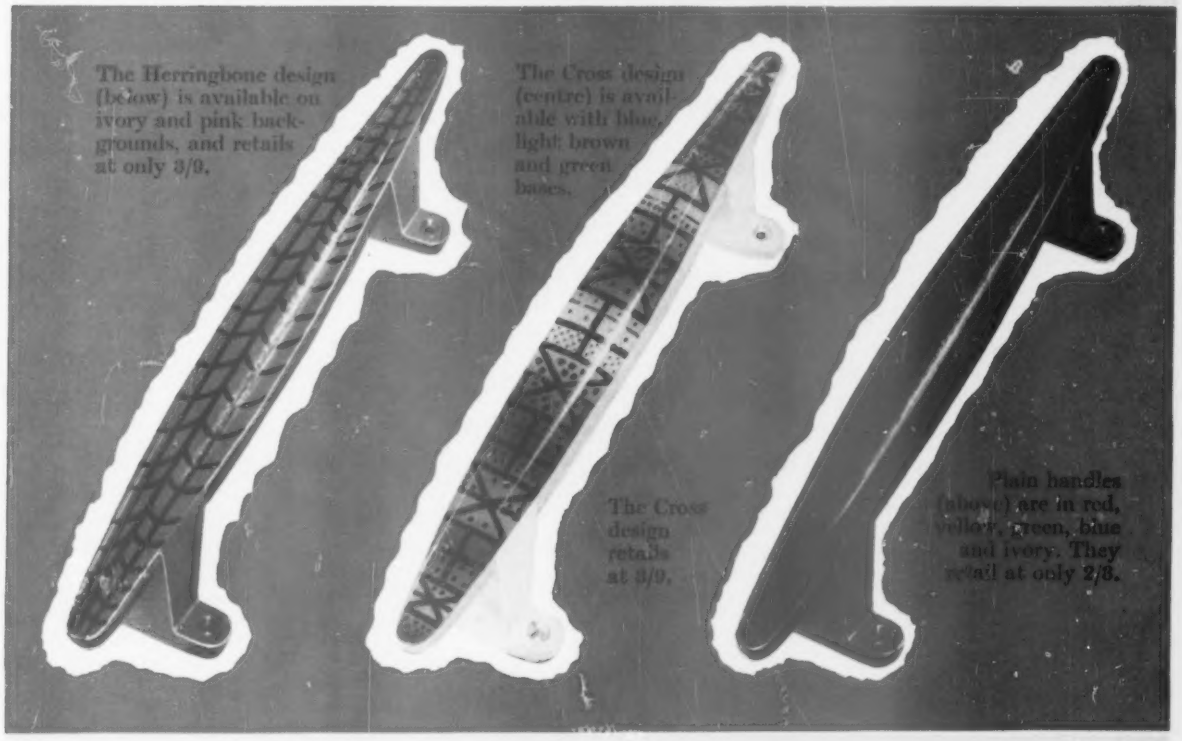
FLUSH DOORS

Photographs by courtesy of the City Architect, City of Cardiff

F. HILLS & SONS LTD., Norton Road, Stockton-on-Tees. 'Phone: 67141
London Office: 79-87 Kingsway, London, W.C.2. 'Phone: Chancery 9251
Telex in operation at both offices.

P.5441

Superb NEW range of LACRINOID pulls



Styled for the 'sixties

These beautiful plastics grips will brighten any building. Ideal for kitchen, breakfast room and bathroom. The finish and appearance are just like porcelain, and they're *scratchproof* too!

LACRINOID

TRADE MARK

Lacrinoid Products Ltd · Gidea Park · Essex · Telephone: Hornchurch 52525

McN773

The **Demolition & Construction** Co. Ltd.

LONDON · CARDIFF · LIVERPOOL · NEWCASTLE-ON-TYNE

BUILDING AND CIVIL ENGINEERING CONTRACTORS

A Member of the Cementation Group of Companies

Light diffusion

in plastic materials



1 Elcoplas ' Modulas ' lighting louvres provide the architect and light fittings designer with a system of louvres designed either to co-ordinate with typical opening sizes for standard ceiling grid dimensions, or alternatively to be suitable for fabrication into any desired size.

2 ' Elcoplas ' louvre ½ in. mesh × ½ in. depth, diamond or square mesh. Registered Design No. 873594.

3 ' Elcoplas ' louvre 1⅜ in. mesh × 1 in. depth, diamond or square mesh.

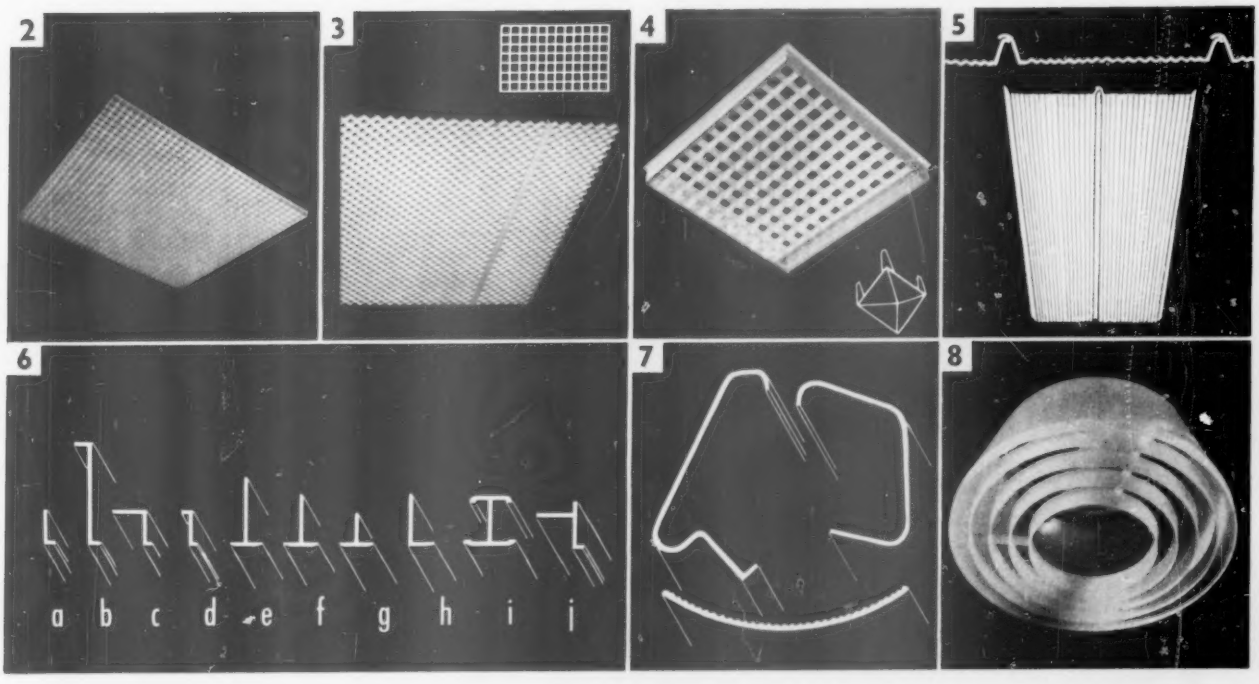
4 ' Elcoplas ' modulus louvre 2 in. mesh × 1¾ in. depth, diamond or square mesh, illustrated with plastic ' Z ' framing. Coloured pyramids in five different colours available for fitting into the cells.

5 ' Plasmatic ' diffuser panels available in opal, pearl, clear. Interlocking panels are 10½ in. centre to centre, and are supplied in maximum lengths of 4 ft. or less to order.

6 Plastic supporting sections.

7 Typical sections of plastic extruded diffusers, as supplied to lighting fitting manufacturers.

8 Moulded plastic shade and louvre as produced to the design of Messrs. Hume Atkins & Co., Ltd. (Registered Design No. 880153).



ELCO PLASTICS LTD

DESBOROUGH PARK ROAD
HIGH WYCOMBE, BUCKS.
Telephone: High Wycombe 4111/4

Where's the chimney?

No smoke—no smokestack—
for Bristol's most modern housing scheme

The 400 flats of the Redcliffe Precinct development are an impressive new landmark in Bristol, standing at the very heart of a district which has been planned as the city's newest smoke-controlled area. The flats are provided with central heating and constant hot water from a central boilerhouse—and the fuel chosen to fire the boilers is *coal*. But the chimney which traditionally marks the location of a boilerhouse is hidden from the Redcliffe skyline. You'll see no smoke clouds drifting on the wind. For the six modern boilers which heat 6,000 gallons of water a day for the Redcliffe flats produce no smoke, although they have been burning 300 tons of coal a year, and will burn much more as the development reaches completion.
The National Coal Board is proud of the fact that coal, in competition with other fuels, was chosen for heating purposes in this major housing project. Mr. D. F. Pexton, the Board's Divisional Marketing Director, looks upon Redcliffe as a graphic illustration of how coal—properly burned with modern equipment—is proving itself to be the most economical and efficient fuel for present-day needs.

CLEAN AIR

"Smoke and grime are no longer an inevitable outcome of burning coal," he states. "The days of burning any type of coal any old how, without thought for the



Waring and Francombe Houses, recently completed, together with Underdown House, form the largest single block in the 400-flats first stage of the Redcliffe development.

power wasted or the smoke produced, are gone. A lot of progress has been made since then in methods of burning, and power engineers now know that the right kind of coal used with the right kind of equipment produces maximum efficiency, maximum value for money—and does not pollute the atmosphere."

R. W. Gregory and Partners of Manchester acted as Heating Consultants for the scheme, and the Redcliffe boilerhouse is equipped with 'Suxé' burners, which are specially designed to burn the cheaper grades of anthracite. This is a naturally smokeless fuel, but all modern furnaces—from the huge chain grate stokers used in large industrial plants to the small installations burning a few hundredweights a week for flat or office heating—can burn bituminous coals without producing smoke. By controlling draughts and regulating combustion rates all the smoky gases given off by burning coal are consumed in the furnace.

This control is frequently fully automatic—as with the Redcliffe boilerhouse, which virtually runs itself. The burners are regulated by a thermostat which operates according to the temperature of the outside air. The colder the temperature out in the open, the more heat the burners produce, and vice versa, thus assuring the tenants of the Redcliffe flats of comfortable living conditions whatever the weather. The burners also bank themselves down automatically at night and open themselves up again in the morning.

Coal is fed into the boilers by gravity, and one daily filling of the feed hoppers provides sufficient fuel for a whole day's operation. The filling is also done automatically by means of an electrically-driven travelling loader, with push-button controls, which has been specially designed for this boilerhouse. The coal is, in fact, 'untouched by human hand' from the time that it is mechanically cut from the coal face until it is burned on the firebeds.

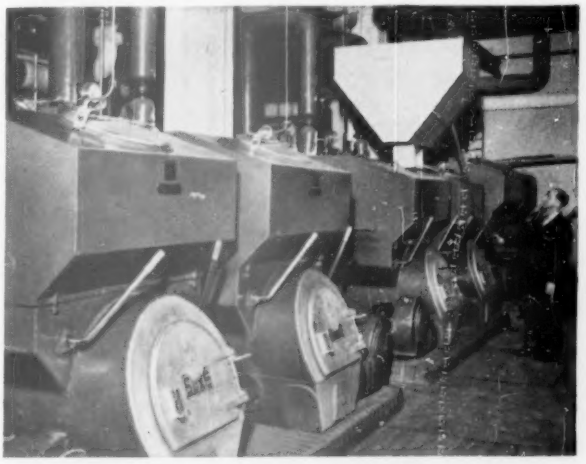
NO LABOUR TROUBLES

The boilerhouse, which will eventually provide a central heating system for the whole of the first stage of the Redcliffe development, is located in the basement of Canynge House. Four boilers were originally installed here, two more having since been added to meet peak demands when the scheme is completed. Hot water for domestic purposes and central heating in the newly-completed and separate 170-flat block is pumped by underground pipes from Canynge House. Further pipes will feed the third block of 100 flats which will complete the first stage. Work on these has already begun. By centralising the boiler installations in this way, coal delivery, handling and storage are simplified and maintenance made considerably easier.

This modern heating and hot water system makes a minimum demand on the time of the caretaker and his assistant who are responsible for its operation. A few minutes each day has been sufficient to keep the boilers running at peak efficiency without further supervision and it is not anticipated that boiler operation will be appreciably more arduous even when all 400 flats are connected.



Coal is run simply and quickly through the grate into a hopper below. This hopper holds sufficient anthracite for 2 months' winter consumption. The anthracite is fed by gravity from the hopper into the electrically-driven loader



The modern solid-fuel boilerhouse. The electrically-driven loader feeds each boiler automatically with sufficient anthracite for a whole day's burning.

PROGRESSIVE HOUSING IS GOING FORWARD ON COAL

ISSUED BY THE NATIONAL COAL BOARD



Planning a kitchen?

Put in a Wastemaster

Too many 'modern' kitchens *still* leave the housewife to cope with messy, unhygienic sink tidies and bins. Solve the problem at the planning stage . . . by including a Wastemaster by Kenwood in your plans.

This neat, efficient appliance fits into the waste pipe under the sink . . . out of sight, saving valuable floor space. It automatically grinds up most kitchen refuse, including food scraps, small bones, vegetable peelings, tea leaves and coffee grounds. These are washed right away, preventing clogged waste pipes and drains.

Many sink units are now designed to incorporate the Wastemaster, which can also be attached to existing units. A necessity in flats and maisonettes, the Wastemaster is a requirement for every truly labour-saving kitchen.

We'll gladly send you further details and specifications, and literature that will interest your clients.

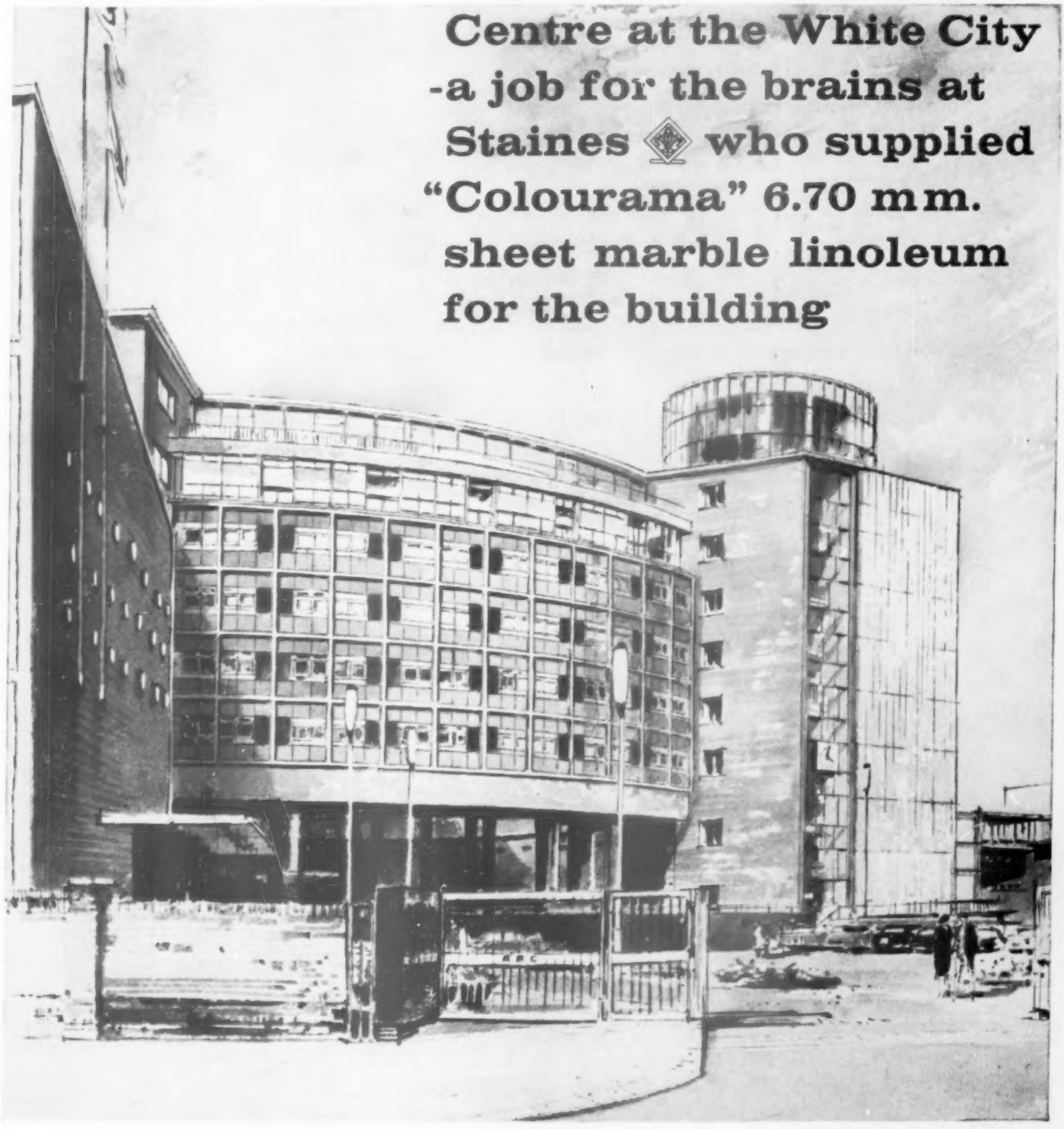


Kenwood MANUFACTURING (WOKING) LIMITED, OLD WOKING, SURREY

WPS 155

ARCHITECTS: *Norman & Dawbarn, 7 Portland Place, W.1.*
Staines Colourama Linoleum installation by
The Limmer & Trinidad Lake Asphalt Company Ltd.

supplying linoleum for considerable areas of the B.B.C. Television Centre at the White City -a job for the brains at Staines who supplied "Colourama" 6.70 mm. sheet marble linoleum for the building



Please let us tell you about the Staines Colourama Linoleum range. Write to:

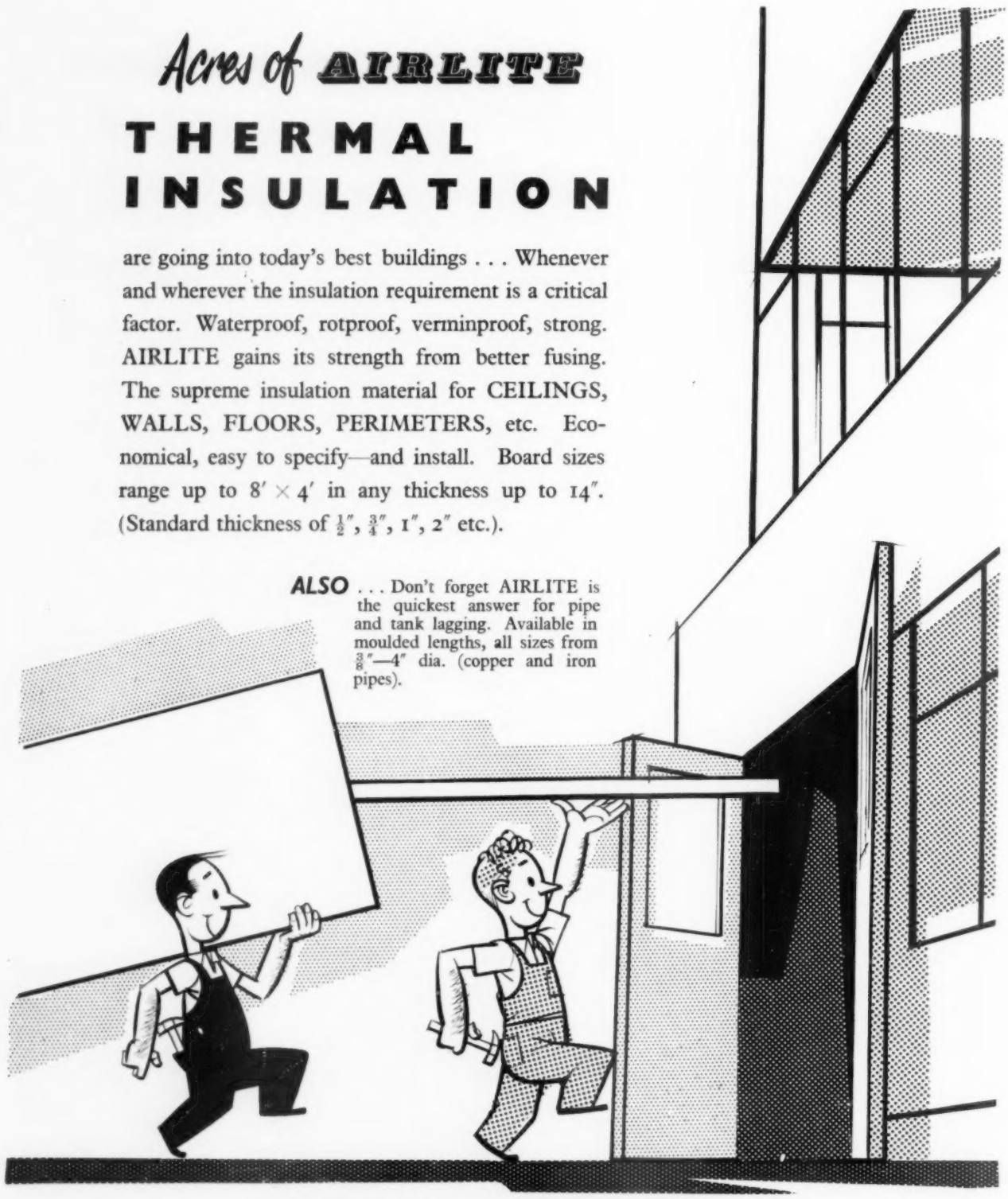
LINOLEUM MANUFACTURING COMPANY LIMITED,
6 OLD BAILEY, LONDON E.C.4.
A member of the Barry and Staines Group

Acres of **AIRLITE**

THERMAL INSULATION

are going into today's best buildings . . . Whenever and wherever the insulation requirement is a critical factor. Waterproof, rotproof, verminproof, strong. AIRLITE gains its strength from better fusing. The supreme insulation material for CEILINGS, WALLS, FLOORS, PERIMETERS, etc. Economical, easy to specify—and install. Board sizes range up to 8′ × 4′ in any thickness up to 14″. (Standard thickness of ½″, ¾″, 1″, 2″ etc.).

ALSO . . . Don't forget AIRLITE is the quickest answer for pipe and tank lagging. Available in moulded lengths, all sizes from ⅜″—4″ dia. (copper and iron pipes).

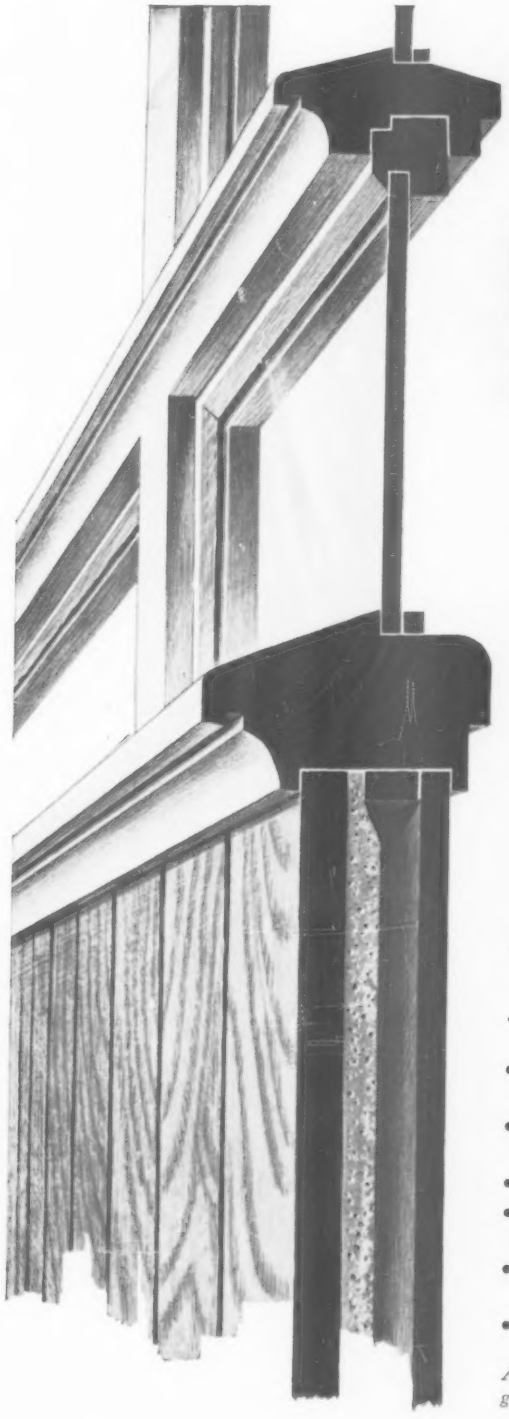


Amazing- **AIRLITE**

EXPANDED POLYSTYRENE

Write for information

J. R. ENTERPRISES LTD.
PIRBRIGHT, SURREY
Tel: BROOKWOOD 2233



For curtain walling

NOTHING BUT WOOD

gives you such design scope

. . . together with all these important advantages.

- Lowest Cost. Wood is cheaper as a curtain wall framing and cladding material than other comparable types.
- Lends itself readily to prefabrication off-site, is easily moulded and shaped. Light in weight. Quickly and easily erected.
- High thermal insulation reducing heat loss.
- High resistance to corrosion and decay in polluted and marine atmospheres.
- Richness and variety in natural colour and texture. Contrasts pleasantly with brick and masonry.
- Easy to maintain in good condition with suitable wood finishes.

A booklet on the use of timber for curtain walling, illustrating specific examples and giving detailed design data, is available on request. May we send you a copy?

For advice on design and specification for timber curtain walling

CONSULT **TDA**

ISSUED BY THE TIMBER DEVELOPMENT ASSOCIATION LIMITED · 21 COLLEGE HILL · LONDON EC4
and branches at Birmingham, Bristol, Glasgow, Leeds and Manchester TGA TD 158/1



Wise men. Just recommended Esavian furniture for all their offices. They know how well it lasts . . . how clever contemporary design prevents it from dating. Esavian offer a complete contract service, and can provide furniture to suit individual requirements. Write today for leaflets illustrating the full Esavian range.



ESAVIAN

Esavian Limited

185 Tottenham Court Road, London W.1
Langham 3436
Esavian Works, Stevenage, Herts.
Stevenage 500
Esavian Works, Carfin, Lanarks.
Holytown 391
101 Wellington Street, Glasgow C.2
Central 2369



Architects: S. N. COOKE & PARTNERS, Birmingham.

The Best Policy for Paintwork!

M.E.M.A. Choose DOCKERS' PAINTS

The best assurance of fine paintwork is to insist on the premium quality paint—DOCKERS, of course! The impressive new building for Midland Employers' Mutual Assurance Ltd. at Edgbaston, Birmingham, is the latest of many outstanding buildings on which DOCKERS' PAINTS were used. For long life and perfect protection in all weathers, more and more architects are specifying DOCKERS' PAINTS.

DOCKERLUX Gloss Paint

DOCKERMATT Flat Oil Paint

DOCKERSHEEN Eggshell Finish

VYDOK Emulsion Paint

DOCKER BROTHERS, LADYWOOD, BIRMINGHAM 16. Tel: EDGbaston 4111

London Showrooms: 17, Berners Street, W.1. Tel: MUSeum 2802.

Depots at: LONDON : MILFORD, Surrey : SOUTHAMPTON : LIVERPOOL : RIPON, Yorkshire
ASHBURTON, Devon : RENFREW, Scotland.



Luxury

modernfold

Coleshill Grammar School: Architect: Eric Davies, F.R.I.B.A., A.M.T.P.I., County Architect, Warwickshire County Council.

specified

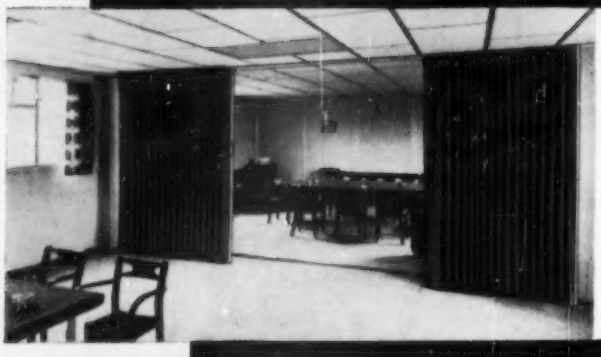
Modernfold Expanding Walls & Doors—lead in solving today's space and room division problem. Precision engineered, the patented metal framework is covered in luxury P.V.C. Leather-cloth. There is a wide choice of colours from which to choose. Tailor made to specific measurements Modernfold require no floor track, are light to handle and draughtproof.



The Crest Hotel, Restaurant, Crowborough. Architect: R. W. Brigstock, F.I.A.F., L.M.I.A.A.

again and

If noise is a problem, the new SOUNDMASTER will provide the answer—specially designed for use where quiet working conditions are required. Details of official test available.



Smith & Davis Ltd., Board Room, Wednesbury, West Bromwich.

again

WALLFOLD by MODERNFOLD

Covered in paintable P.V.A. Leather-cloth—the door in the lower price range, available particularly for estate developers.



Taylor Woodrow Construction Ltd., Canteen, Southall. Architect: Elliott, Cox & Partners, F.R.I.B.A., F.R.I.C.S., L.R.I.B.A., A.I.A.S., A.R.I.B.A.

Write today for full details of complete range.

HOME FITTINGS (GT. BRITAIN) LTD.

Dept. AR 12, VICTORIA WORKS,
HILL TOP, WEST BROMWICH, STAFFS.
Telephone: Wednesbury 0761

REMEMBER MODERNFOLD ALWAYS FILL THE GAP-COMPLETELY



STEELWORK AT A SUPPLY & RESERVE DEPOT, KLONDYKE WHARF, DEPTFORD

This building is designed for heavy floor loading on long-span girders, as illustrated.

Architects: Messrs. Grace & Farmer, F.R.I.B.A.
Consulting Engineer: A. E. Highfield Esq., B.Sc. (Eng.) Hons., A.M.I.C.E.
Contractors: John Mowlem & Co. Ltd.

STEELWORK BY

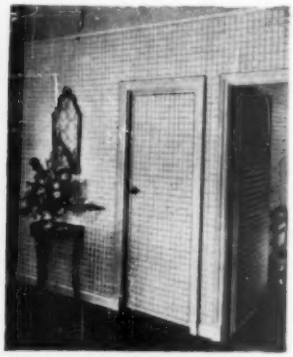
REDPATH BROWN

Branches: Edinburgh, Glasgow, London and Manchester

STEEL
STRENGTH
SECURITY

Everywhere
striking new decorative effects are being created with
Paniquil
padded and quilted p.v.c. on hardboard


An interesting ceiling application.


Hearing aid consulting rooms, Westrex Company Ltd, W.1.


Hairstyling Salon, Harrods Ltd of Knightsbridge.

All the elegance and luxurious softness of quilting is offered *at low cost* by this remarkable material. In shops, stores, hotels, restaurants, cinemas, theatres, offices and houses all over the country, its use has led to the creation of the most striking and pleasing decorative effects. A few examples of 'Paniquil' in situ are shown here, but you must *see* 'Paniquil' for yourself to appreciate its possibilities to the full. Send now for samples and details.

★ New luxury at reasonable cost
★ Wide range of colours and designs
★ Simple to install ★ Easy to keep clean

PANIQUIL (SALES) LTD
40 New Cavendish Street, London W1. *Tel: WELbeck 0846*
Stockists throughout the United Kingdom



A Complete Oil-Fired Heating Service

Rubery Owen oil-firing equipment covers the whole range of industrial and domestic central heating requirements, and whatever the installation the outstanding features are efficiency, ease of operation, and economy.

The Rubery Owen-Greaves space heating system utilises ducted warm air and is easily adaptable to all types of heating installations and has outputs ranging from 60,000 to 1,750,000 B.Th.U. for industrial and commercial installations.

For domestic and industrial heating systems the R.O. Patent Atomisation gas-oil burners with outputs of from 60,000 to 450,000 B.Th.U. and the Easifire No. 1 Pressure Jet Burner which is fully automatic, and by reason of the high degree of atomisation is most economical in use. These units operate on 35 secs. viscosity Redwood No. 1 Fuel.

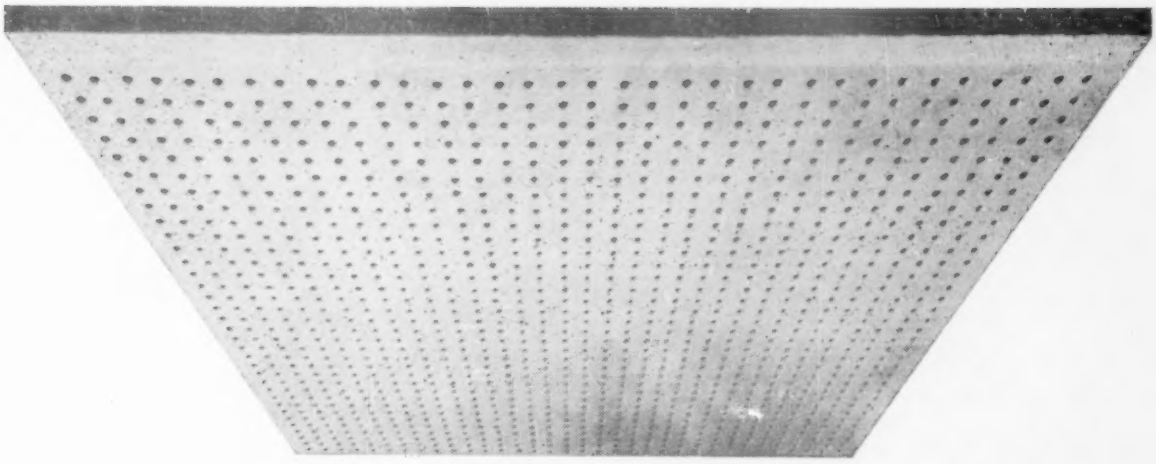
Domestic Central Heating and hot water supply are fully catered for by the Easifire 'OO' Oil Fired boiler which has an output of 30,000 B.Th.Us.

Two new models—the Easifire E 80 and the Easifire E 100 are now available for larger domestic central heating installations, offices, shops, etc. : with outputs of 85,000 and 110,000 B.T.U. respectively and they are of welded steel construction.

The Burner is a new design of pressure jet with fully automatic electronic control box and photocell controls and boiler thermostat. Fuel is Gas-Oil 35 secs. The attractive casing, in enamel finish, has a catseye indicator and dial thermometer.

Fully descriptive leaflets are obtainable on all these models. Please write for copies of those in which you are interested.

RUBERY OWEN (HEATING) LIMITED
CHURCH STREET . WEDNESBURY . STAFFS . TEL: WEDNESBURY 1081-2
Member of the Owen Organisation



PAXTILES above

Newalls (reg'd brand) PAXTILES are the most effective method of suppressing unwanted sound; they are also a decorative treatment in themselves, capable of being painted without impairing their acoustic qualities. Composed of asbestos they are absolutely FIRE-, rot- and vermin-proof, and they resist condensation. Additionally, they provide an appreciable degree of heat insulation. It is not surprising therefore, that all these practical attributes recommend PAXTILES to the attention of modern architects as the most suitable sound insulation medium available.

mean PRODUCTION below



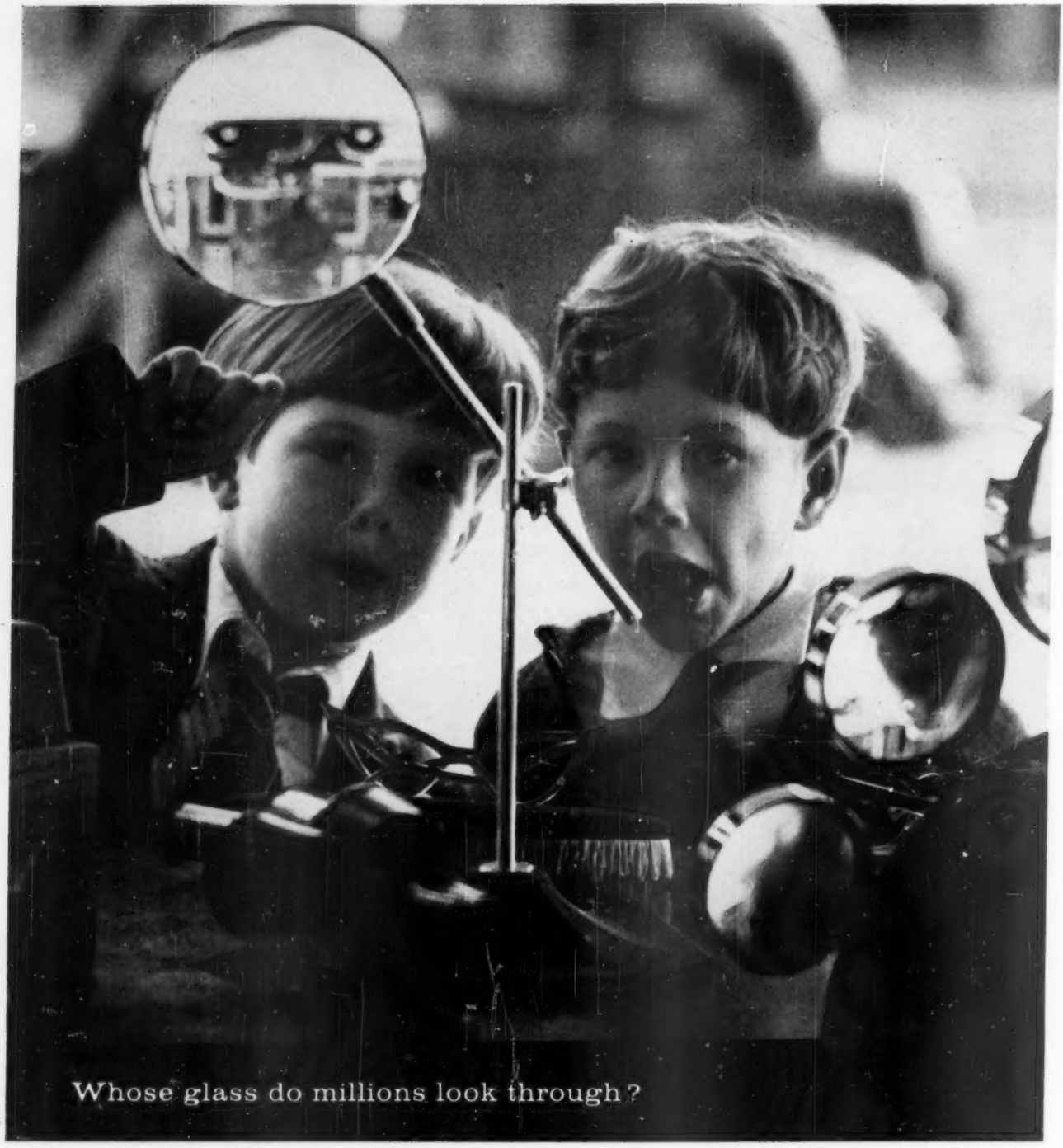
Newalls PAXTILES

NEWALLS INSULATION CO. LTD. WASHINGTON, CO. DURHAM

A member of the TURNER & NEWALL ORGANISATION Offices and Depots at LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL, DUBLIN & CARDIFF

Agents and Vendors in most markets abroad.

49



John and Robert Stonehouse have their eyes fixed on a magnifying glass—just the thing for their stamp collection . . . and just one of the millions of pieces of optical glass made in the Chance/Pilkington Optical Works at St. Asaph in North Wales. That's where the glass is made for your spectacle lenses, and for specialised lenses of all kinds . . . snapshot cameras and television cameras . . . microscopes and binoculars . . . glass for all these and many other purposes goes from St. Asaph all round the world. As it does for another specialist use—to make windows through which nuclear scientists can watch their experiments safely protected against radiation. So St. Asaph typifies the whole Pilkington Group—supplying today's needs and serving tomorrow's developments in a way which demands a big company, in every sense.

Pilkingtons

the greatest name in the world of glass

THE PILKINGTON GROUP manufacturing Pilkington Glass, Chance Glass, Chance/Pilkington Optical Glass and Fibreglass. Factories in Great Britain, Canada, Australia, New Zealand, South Africa, Argentina and Brazil.

Regd. Trade Mark

A

NEW BOOKLET

ON

TANKING

WITH

MASTIC ASPHALTE

AVAILABLE FREE
from

NATURAL ASPHALTE MINE-OWNERS & MANUFACTURERS COUNCIL

14 HOWICK PLACE
WESTMINSTER S.W.1.
Phone Vic 1600, 6477

Eight new books for CHRISTMAS

MY WORK BY LE CORBUSIER

Written, designed and supervised by Le Corbusier, this book surveys the great architect's development from his early days to the completion of his latest building. Drawings, used to amplify Le Corbusier's ideas when working, are here used to reinforce his explanatory text. He explains and illustrates the principles governing his work, and his contention that architecture must be integrated with other art forms is reinforced by a wide selection of photographs of great buildings, paintings and sculptures.
Size 11¼ × 8¾ ins. 328 pages. Illustrated throughout. 84*s.* net, postage 2*s.* 3*d.*

New Japanese Architecture
UDO KULTERMANN

Western opinion seems to have built up an image of modern Japanese architecture as something spare, elegant, informal. Dr Kultermann's book shows how different the work of leading Japanese architects has turned out to be. It is an architecture that is not afraid of mass and solidity; not afraid to exploit the gross material qualities of wood, stone and concrete; not afraid of bold plastic forms; not afraid to mate advanced technology with hallowed traditionalism. All these qualities are brought out in dramatic photographs, backed by analytical texts and biographies of some two dozen leading architects.
Size 11¼ × 8¾ ins. 212 pages. 180 half-tone illustrations. 63*s.* net.

Theory and Design in the First Machine Age
REYNER BANHAM

In the first thirty years of this century, architects made a tremendous effort to adapt their art, and to create a new climate of ideas. Dr Banham's subject covers theoretical writings, buildings, projects, industrial designs, paintings and sculptures. He shows how one unifying theme finally emerges: the architecture of the International Style. Into its growth went many designs, which the author illustrates and analyses; many publications, from the scholarly to the scandalous, from which he quotes extensively, showing the relationship between theories, theorists and products.
Size 8¾ × 5½ ins. 340 pages, over 150 half-tone and line illustrations. 45*s.* net, postage 1*s.* 9*d.*

Design and Detail of the Space between Buildings
ELISABETH BEAZLEY

Few good examples of paving, walling and fencing are being built to-day. One reason for their rarity may be that the available information on materials and details is now widely scattered, and much time is wasted in long searches. This handbook sets out to collect, from all sources, all information; and to assess the character, availability and wearing qualities of materials, the relative merits of constructional methods, and to help the planner avoid incongruities of detail.
Size 10 × 7½ ins. 230 pages. 130 half-tone and 85 line illustrations. 42*s.* net.

Antoni Gaudi
JOSEP LLUIS SERT & JAMES J. SWEENEY

For too long the great Spanish architect Antoni Gaudi has been regarded merely as an eccentric, and the significance of his contribution to architecture has been misunderstood. The authors trace Gaudi's life and work from his days as a student to his death in 1926. The picture emerges of a wholly sincere architect-builder who lived only for his work; we are reminded of Gaudi's constant reference to nature, his preoccupation with structural principles, his habit of making models which showed him what stresses his buildings would have to bear. Photographs, some in colour, and detail drawings, show how richly Gaudi's work deserves attention.
Size 11¼ × 8¾ ins. 192 pages. 184 half-tone illustrations, 13 in full colour. 73*s.* 6*d.* net.

The Landscape of Roads
SYLVIA CROWE

In the next three years £230 million will be spent on British roads. This book clearly and forcefully demonstrates the disastrous effect on the landscape when roads are treated purely as an engineering problem. Text, drawings and photographs together show how the skills of a combined team of experts can produce roads which fit the landscape, are far pleasanter to use and do not necessarily cost any more to build.
Size 9 × 5¾ ins. 70 half-tone illustrations, 18 drawings. 18*s.* 6*d.* net, postage 1*s.*

Lettering on Buildings
NICOLETE GRAY

This is the first book to deal with lettering as applied to all kinds of buildings. The author is an internationally acknowledged authority. She first examines and illustrates the history and development of letter forms and then outlines a new way of looking at problems and possibilities. Her approach is illustrated by many examples of lettering *in situ*; and she thus demonstrates how present-day architects and designers can tackle the task of integrating lettering with all kinds of buildings.
Size 9 × 5¾ ins. 192 pages with 270 half-tone and line illustrations, 25*s.* net, postage 1*s.* 2*d.*

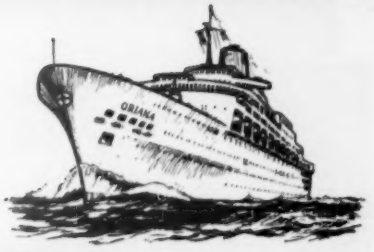
Architects' Working Details Volume VII
EDITORS: D.A.C.A. BOYNE & LANCE WRIGHT, A.R.I.B.A.

This seventh volume returns to English examples. The series aims firstly to provide architects and students with easily accessible solutions to everyday design problems, and secondly to record the latest stages reached in the study of these problems, thus providing a starting point from which architects can develop their own improvements. Each detail is illustrated by a large photograph facing the relevant working drawing.
Size 12 × 8¾ ins. 160 pages. 148 half-tone and line illustrations. 25*s.* net, postage 1*s.* 9*d.*

The Architectural Press, 9-13 Queen Anne's Gate, London, S.W.1



For yours and the Captain's table



A lovely ship sets sail. From bow to stern, a shipbuilder's dream come true. And for more than two thousand passengers, a three-week life of luxury. Everything superlatively right, down to the last pepper pot. Which reminds us: the tableware is designed by Robert Welch, and made by J. & J. Wiggin. No difficulty about a name for it: Oriana. Beautiful to look at, each satin-finished, stainless steel piece. Practical. Modern. It needed to be, and it is: Oriana for Oriana. Oriana for you. Oriana for the Captain's table. For a host of land-locked tables in hotels and restaurants: anywhere, in fact, that caters for the customer whose appreciative eye doesn't only scan the menu . . .

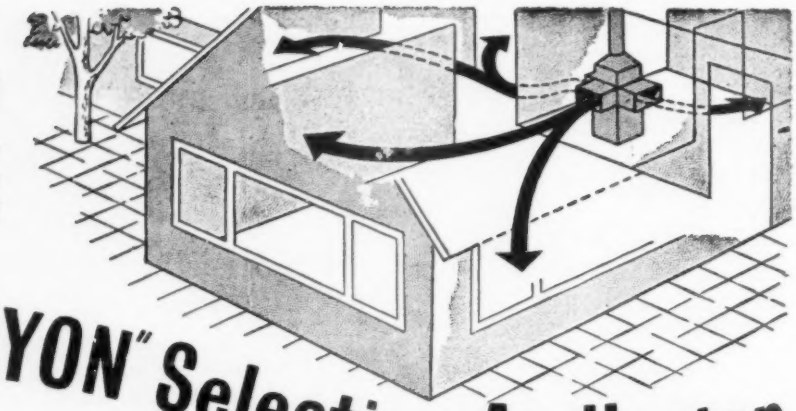
WT.69A

Old Hall

J. & J. WIGGIN LIMITED
31 OLD HALL WORKS
BLOXWICH, STAFFS.

RAPID HEATING

is just one of the good reasons why more and more architects have discovered the many technical and practical advantages of the



SUGG "HALCYON" Selective Air Heater



Illustration of Halcyon Model F.45 shown with the ducting removed.

A TEMPERATURE RISE OF UP TO 20°F CAN BE SUPPLIED TO AN AVERAGE ROOM IN ABOUT 10 MINUTES.

This "warmth where you want it" equipment presents no difficulties in installation, by simple duct system, suitable for houses, bungalows and flats.

It is compact, easy to control and econor al to maintain. The "HALCYON" time-switch can be set to operate automatically at any required time.

CAPITAL COST UNDER £80

Choose "HALCYON"—for a new high standard of near-central domestic heating. Thousands already in use.

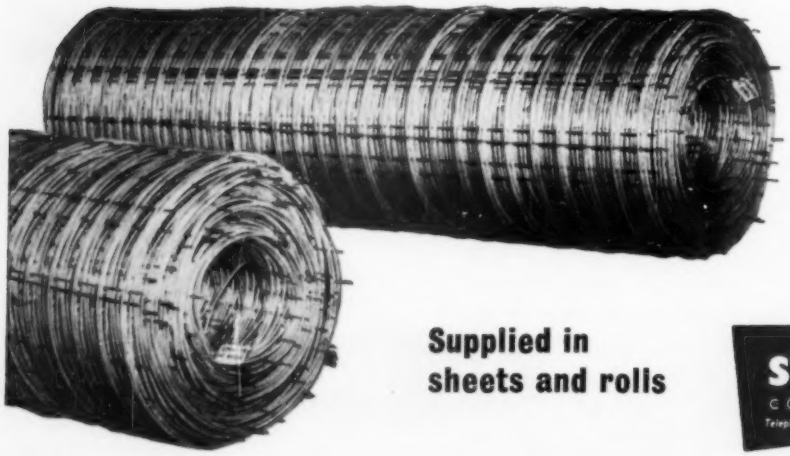
Literature and full technical details available from

WILLIAM SUGG & COMPANY LTD., 67-73, Regency Street, London, S.W.1

Telephone VICtoria 3211

SPENCER MESH

for REINFORCING CONCRETE



Supplied in sheets and rolls

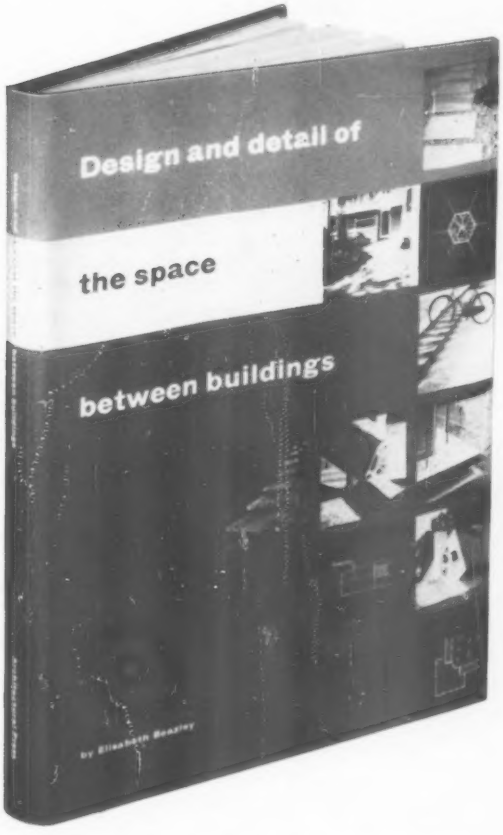
An electrically welded mesh manufactured in accordance with B.S.S. 1221/1945 Part 'A' from High Tensile Steel Wire drawn in our own mill. Oblong or square meshes for concrete reinforcements in floors, foundations, roofs, roads, etc. Standard size sheets and rolls always in stock. Spencer Mesh can also be supplied galvanized. Small meshes are ideal for partitions, fencing, screens, guards and many other applications. Available, if required, in small panels cut to your own specifications.

THE SPENCER WIRE COMPANY LIMITED • WAKEFIELD

Telephone - WAKEFIELD 6111 (10 lines) - Telegrams - SPENCER WAKEFIELD TELEX Telex No. 55180

Das1260AR

"The spaces between buildings are as important as the buildings themselves. The importance of detail . . . *whether it is to be a lamp-post or the profile of a kerbstone, the shape of a litter bin or selection of a manhole cover, everything is worth taking trouble with."* **Sir Hugh Casson in the Observer**



An invaluable handbook will shortly be published by the Architectural Press. It covers, among many other subjects,

Paving materials, Trim, Surface drainage, Walls, Fences, Gates, Parking, Bicycle stands, Steps and ramps.

It assembles all available information on paving, walling and fencing from a wide range of sources, and assesses character, availability and wearing qualities. It is fully illustrated and thoroughly indexed, and gives ample additional references. Its title is

Design and detail of the space between buildings

by ELISABETH BEAZLEY

Size 10 × 7½ ins. 228 pages. 130 half-tone and 85 line illustrations. 42*s.* net, postage 1*s.* 9*d.*

The Architectural Press
9-13 Queen Anne's Gate, London, S.W.1.



Photograph by courtesy of King Edward's School, Whitley.

rubber flooring by MORRIS

The photograph shows our "Studded Tile" flooring, selected by Gerald S. Jones & Sykes, architects, and installed by Chapman, Lowrie & Puttick Ltd., in King Edward's School, Whitley. Morris non-slip studded flooring is available in a very large range of colours, made in 12-in. square tiles, $\frac{3}{16}$in. thick. Rubber flooring tiles designed and produced by Morris Rubber Industries Ltd. combine an inbred resistance to wear with an outward appearance which looks well in all kinds of surroundings. Available in many attractive colours and patterns, warm, hygienic, quiet and resilient, Morris Rubber Tiles will satisfy the need for hard-wearing floor covering wherever people work and live.
Please let us send you more detailed information about Morris Rubber Flooring and, when in London, see our exhibit at The Building Centre, 26 Store Street, W.C.1.

SELECTED BY THE COUNCIL OF INDUSTRIAL DESIGN FOR EXHIBITION IN DESIGN CENTRE

MORRIS RUBBER INDUSTRIES LIMITED



High Road - Byfleet - Surrey
Telephone: BYFLEET 45651/4
Telegrams: RUBBER, BYFLEET

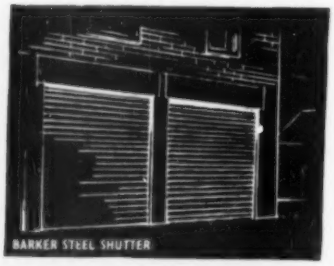


Wise heads behind wise hands build

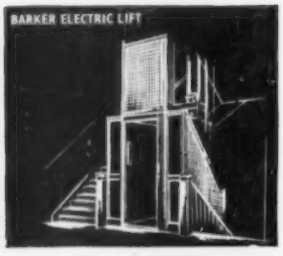
Wise heads on the shoulders of applications engineers, and designers, with the accumulated know-how of over 90 years experience at their fingertips, stand behind the hands of craftsmen who know more about their job than words could ever teach . . . to whose sensitive touch metals respond like sculptor's clay. Together heads and hands are responsible for the perfection of design, construction and performance that distinguish Barker products from all others.

BARKER

ROLLER SHUTTERS
ELECTRIC LIFTS
HAND LIFTS
DELIVERY HOISTS


BARKER STEEL SHUTTER


BARKER WOOD SHUTTER


BARKER ELECTRIC LIFT


BARKER HANDLIFT

BARKER

For full details of Barker products send for illustrated literature A.11 *to:-*

JOHN BARKER & SONS (ENGINEERS) LTD.

Union Street, Ancoats, Manchester 4. Tel: COLlyhurst 2018
London: 71 Strawberry Vale, Twickenham.
Telephone: POPesgrove 0794

The lowest priced Plastic Cistern



and the only unbreakable cistern too!

Success follows success with Fordham. After the Fordham 'Eterna' in White plastic—the 'Eterna' in black plastic. Here is the lowest price plastic cistern. The only one in rigid polythene and so the only really unbreakable cistern. It has all the well-proved Fordham advantages, too, resulting in dependable, ever-lasting, maintenance-free operation, whatever the water conditions. For low cost housing, the Fordham black 'Eterna' is supreme.

To B.S.S.	1125/1959
Width	19⅞ ins.
Depth	12¾ ins.
Projection	7 ins.
Weight complete	8 lbs.
Front lever of unique design.	

Note for Stockists
18 'Eternas' occupy less than 4 square feet of floor space.

✱ *Write NOW for fully illustrated literature.*

Fordham *ETERNA*

FORDHAM PRESSINGS LTD., DUDLEY RD., WOLVERHAMPTON

Other Factories at Earlsfield (London), Hinckley (Leics), Sedgley (Staffs).
Makers of a complete range of Cisterns, Flushing Troughs, and other Sanitary Equipment.

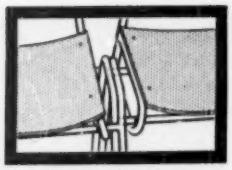
UNIQUE SELF-LINKING

Remploy·Stafford

STACKING CHAIRS

The greatest advance in chair design since stacking—and so practical





How Remploy/Stafford stacking chairs link together . . . stack better too.

Ideal when temporary, group-seating-systems are required and storage space is limited. These new, revolutionary Remploy/Stafford chairs link together *automatically* and rigidly. No clips or accessories are required. And they stack better too—as high as you can go.

MS9/18 Remploy/Stafford standard model. Strong tubular steel frame. Preformed, multi-ply backrest and seat. Dimensions: Height 29¾", Depth 18", Seat height 17½", Overall width 20¾", allowing a comfortable, linked-together space of 19" per person. Also available in a special Junior size which links at 16" per child. Registered Design Nos. 893239 and 893941.





MS14/18 Remploy/Stafford de luxe, self-linking model. Upholstered in foam rubber. Covered in washable Vynair plastic, embossed in a distinctive black and white design.

2 MORE REMPLOY STACKING CHAIRS

—always in great demand



MS4 Sturdy lightweight, continuous tubular steel frame with polished canvas backrest and seat. In red, blue or green. Seat height 18".



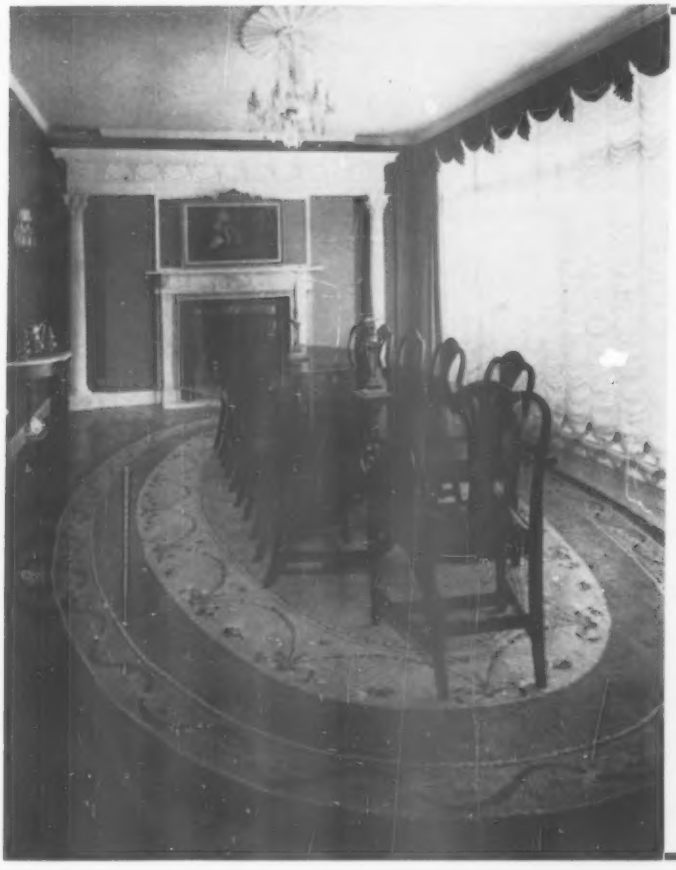
MS5 Similar frame to MS4 but with beech plywood seat and back.

Self linking tables too!

Remploy/Stafford apply the same, unique, self-linking design to tables. Form a continuous flush fitting surface. Fold and stack neatly when not in use.

Write for the free brochure illustrating the complete REMPLOY/STAFFORD range of Tubular Furniture, to:—

REMPLOY LIMITED, School Furniture Sales Division, 415 Edgware Road, London, N.W.2. Tel: GLAdstone 8020



REAL HAND-KNOTTED CARPETS

FOR THE

CONNOISSEUR

DONEGAL CARPETS

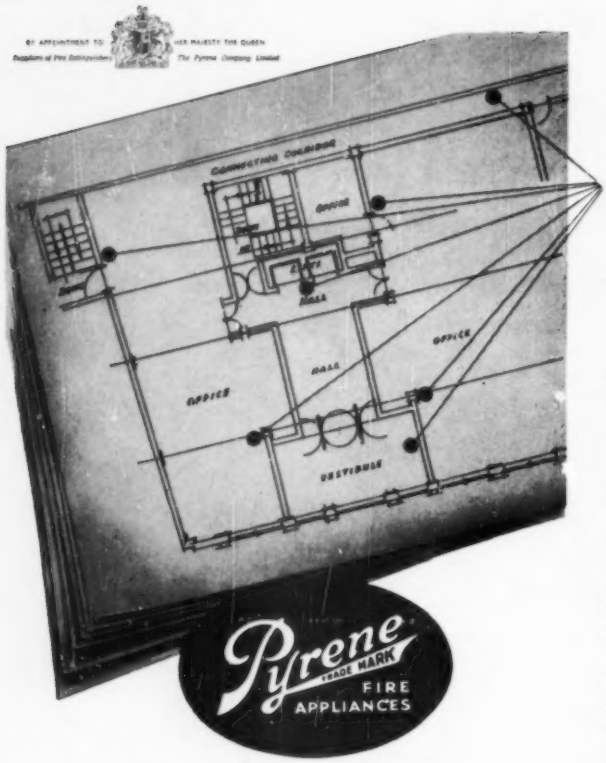
LIMITED

ENQUIRIES & SHOWROOMS

10 GRAFTON STREET,
DUBLIN · IRELAND

Telephone: DUBLIN 72951

"A fine hand-knotted 'Donegal' Carpet, Oval, 18' × 10' 6", especially made for a suite of Dining Room furniture."



Let us co-operate on

planned fire protection

In the design and construction of modern buildings the planning of Fire Safety is of vital importance, demanding careful consideration at the very outset. The co-operation of the Pyrene Company's Fire Engineers has been at the service of Architects and Surveyors for over 40 years and today their expert and impartial advice is relied upon universally.

"Pyrene" Fire Protection includes Hand-operated and Portable Equipment of every type, including Hose and Hydrants, Hose Reels, Foam, CO_2 and Dry Chemical Installations. There are also "Pyrene" Fire Detecting Systems designed to give automatic warning of fire at any time—day or night.

The "Pyrene" Fire Extinguisher Hire Maintenance Plan, available to architects' clients, provides the right number and types of extinguishers with constant inspection and maintenance. For full information and advice please write to Dept. AR 12

THE PYRENE COMPANY LIMITED

9 GROSVENOR GARDENS LONDON SW1 *Tel:* Victoria 8474
Head Office & Works: BRENTFORD · MIDDX *Canadian Plant:* TORONTO *Australian:* MELBOURNE

DANAURA Blinds

The Directors and Staff of

Danaura Ltd.

are proud to have been associated in the supply of VENETIAN BLINDS to the Palace in the Persian Gulf and respectfully offer their services to Architects for any other projects of like nature.*

52a Chase Side, London, N.14

Telephone : FOX Lane 0018

**or even unlike—if they call for good Venetian Blinds ! !*

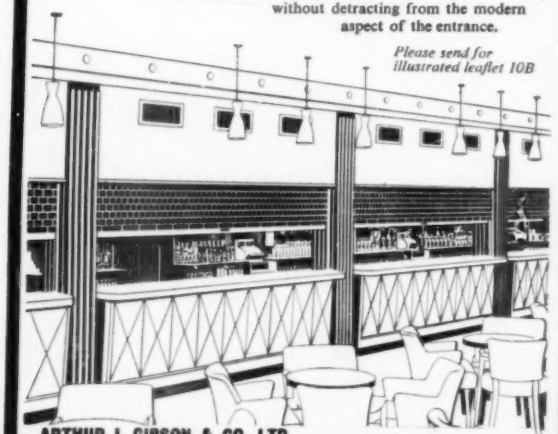
KINROD GRILLES

by the makers of Kinnear Shutters and Kinylon Grilles

solve the problem

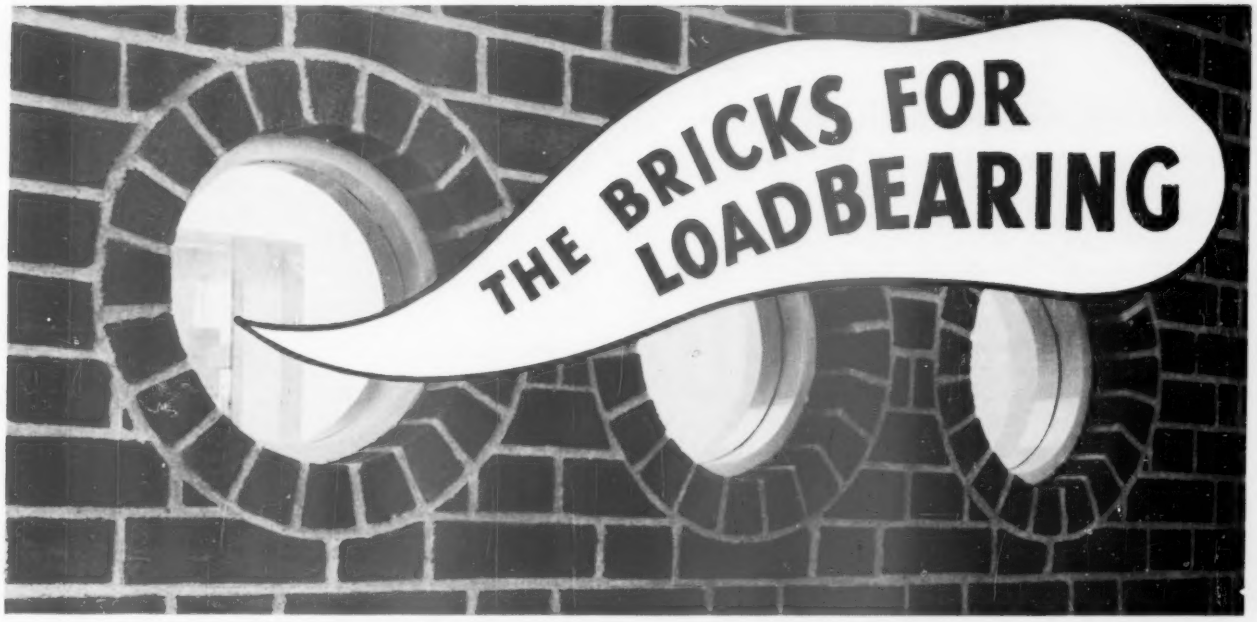
of combining complete protection with an attractive appearance. Although the Kinrod Grille is enormously strong, its pattern gives good visibility without detracting from the modern aspect of the entrance.

Please send for illustrated leaflet 10B



ARTHUR L GIBSON & CO. LTD.

Twickenham, Middx. Tel. Popesgrove 2276. Birmingham: Highbury 2804
Glasgow: Halfway 2928 Manchester: Central 1008 Cardiff 51428



ACCRINGTON
'Nori' Bricks

The use of brick for high loadbearing purposes need not entail any sacrifice of appearance.

Combining the crushing strength of Class A Engineering Bricks with the aesthetic qualities of the highest grade facings, Accrington 'Nori' Bricks are the obvious choice for all heavy-duty structures.

Samples on request

THE ACCRINGTON BRICK & TILE CO. LTD., ACCRINGTON, LANCS. 'PHONE: ACCRINGTON 2684

Southern Representative: L. G. Rogers, Oak Lea, Main Road, Westerham Hill, Kent. Telephone No.: Biggin Hill 0538

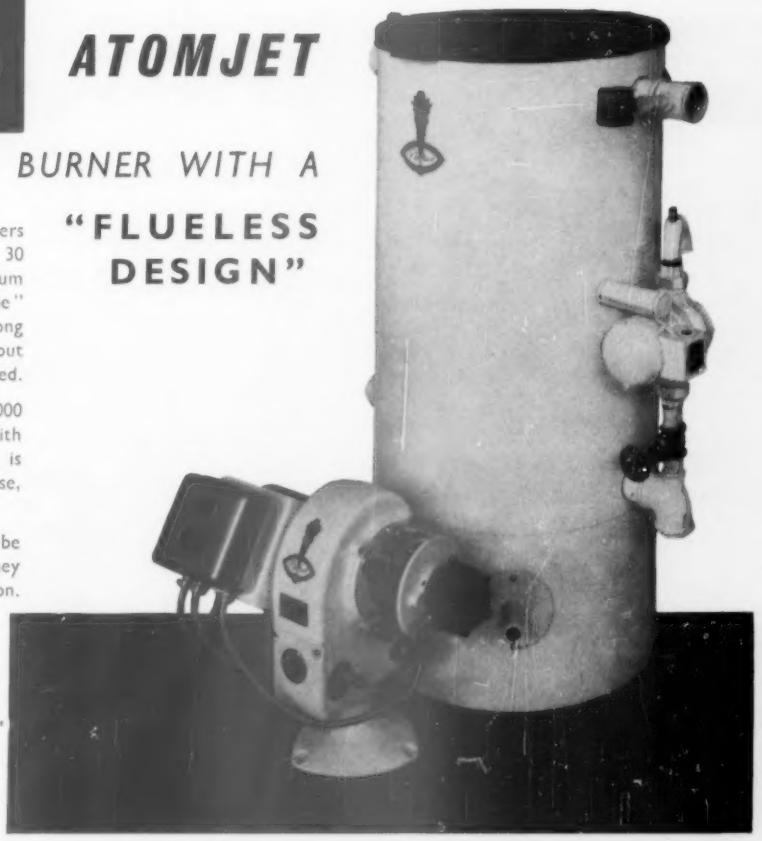
Perkins ATOMJET

OIL FIRED PRESSURE JET BURNER WITH A "FLUELESS DESIGN"

The "Atomjet" is one of four different types of oil burners which have been developed by Perkins over the past 30 years and are carefully calculated to work with maximum efficiency with the unique Perkins "spiral cross tube" boiler. The "Atomjet" boiler unit will work for long periods with no attention, little maintenance and without the assistance of a flue. A short outlet is all that is required.

Twenty boiler sizes are available from 35,000 to 2,000,000 B.T.U's constituting the largest range in Europe. With this enormous choice of burners and boilers there is available a standard Perkins unit to suit every house, bungalow, factory and office-block.

Perkins boilers, designed for hot water and steam, can be heated by oil, gas or electricity. Completely automatic, they are capable of working for long periods without attention.



Write for illustrated literature to:

PERKINS BOILERS LIMITED

Dept. T.1, Mansfield Road, Derby

Telephone: 48235 (5 lines) *Cables:* "Perkins, Derby"

London Office:

82 Merton High Street, London S.W.19

Telephone: LIBerty 5271/2

HMSO

Structural Frameworks for Single-storey Factory Buildings

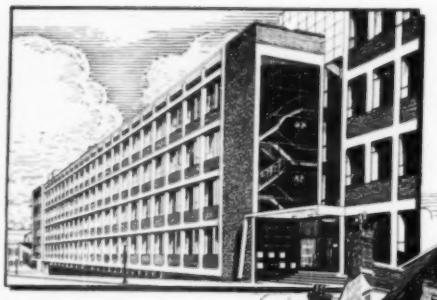
Modern materials and design methods offer a range of types of roof structure and many considerations affect the appropriate choice. In this study Mr. H. V. Apcar gives details of how costs are affected by roof type, span, column spacing, clear height, and loading; and discusses the influence of type on other functional requirements. 37 illustrations. *Factory Building Study No. 7.* **4s.** (*post 6d.*)

Fire Research, 1959

Annual report of official research into the outbreak, ignition and growth of fire, structural aspects of fires in buildings, and related matters. Illustrated. **5s.** (*post 6a.*)

From the Government Bookshops
or through any bookseller

HMSO


LIVERPOOL UNIVERSITY MEDICAL SCHOOL


MILBOURNE LODGE SENIOR SCHOOL ESHER, SURREY

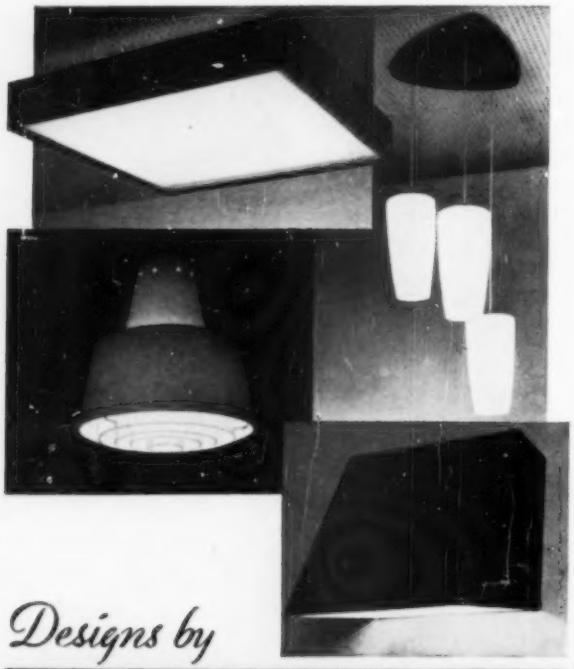
In
UNIVERSITY
or in
'PREP' SCHOOL

The quest for knowledge is common to both, and it is common knowledge that to learn in comfort is to learn the more quickly. That is why although structurally as poles apart both these buildings in greater and lesser degree are fitted with Chamberlin Weatherstripping Equipment that ensures a draught-free comfortable 'atmosphere' in which to teach, study and progress.

DATA SHEETS FOR ARCHITECTS AND BUILDERS. We invite Architects and Builders to send for the Chamberlin binder folder containing full technical data and dimensional drawings of Chamberlin equipment.

THE CHAMBERLIN SERVICE

CHAMBERLIN WEATHERSTRIPS LIMITED
34 ELM ROAD CHESSINGTON Telephone: Lower Hook 1181 (3 lines)
GD 112.



Designs by
S.L.R. Electric Ltd.

Catalogues available on request —

WELBECK WORKS, WELBECK ROAD, SOUTH HARROW, MIDDLESEX
Telephone: BYRon 3273, 4

SM

CURTAIN WALLING and METAL WINDOWS in *KIRKTON HIGH SCHOOL* **by**

STANDARD MACLEAN LTD.

CADZOW WORKS, LOW WATER RD., HAMILTON, LANARKSHIRE.
Hamilton 1410 4



SIEBER FOR
A '7 STAR' LOGICAL CLOAKROOM

- SAVES SPACE
- SAVES COST
- PRESERVES GARMENTS
- ENSURES HYGIENE
- REDUCES ABSENTEEISM
- AIRS AND DRIES WET CLOTHING
- MEETS NEW FACTORY ACT

Installed in Factories, Stores, Offices, Swimming Baths etc., throughout the country.

JAMES SIEBER Equipment Co. Ltd.
Africa House, Kingsway, London, WC2
Tel: HOLborn 4531, 5121



'ESTATE'



'RADIAL'

Sliding or Folding
Doors and Partitions
run more smoothly, far longer

on ELLARD SLIDING DOOR GEARS

'ESTATE'

Ellard **'ESTATE'** sliding door gear is designed for use with all internal straight sliding doors up to 100 lbs. *each* in weight.

'ESTATE' gear has enjoyed extensive popularity for many years and is still selected for use on large housing estates and New Towns throughout the country.

'RADIAL'

Ellard **'RADIAL'**, 'round the corner' sliding door gear, is suitable for private garages, council lock-ups (singly or in multiples), commercial garages, motor and motor cycle showrooms and for all openings where maximum door width is required.

For Easy Reference. Please write for our handy literature wallet containing full details of our most popular types of sliding door gear.

ELLARD SLIDING DOOR GEARS LTD., (Desk 5/5) Works Road, Letchworth, Herts. **Tel: 613/4**
LONDON OFFICE: 5 New Bridge Street, Ludgate Circus, E.C.4. **Tel: CITy 4815**

Announcing three new tiles
—to complete the Windmill Range
★ RED MINGLE ★ BUFF MINGLE ★ and a new PLAIN BUFF

The mingle tiles—never before available in the quarry range—offer you superb, floor-tile colours at QUARRY TILE PRICES!

The buff tile—beats the current shortage with an extremely hard type in this colour, now in **full production.**

The 3 **new** tiles and Red and Brown Fleck make a complete range, all available in standard sizes. Also Ceramic Cills in above colours. Sizes 7½", 8", 9", 10" & 12", in only ⅝" thickness.

TRADE MARK

Like all 'Windmill' products, the three new colours are made with the same stable control for colour and size in accordance with the BSS. 1286/1956 Type 'A'.

SEND NOW for a PRICE LIST AND SAMPLES—OR ASK FOR OUR REPRESENTATIVE TO CALL.

WINDMILL QUARRY TILES

ALLIED BRICK & TILE WORKS LTD., 6/7 QUEEN STREET, LONDON, E.C.4. CITy 2725

LINOTOL CONTEMPORARY FLOORING WAS USED ON ALL STAIRCASES AND LANDINGS AT KIRKTON HIGH SCHOOL

LINOTOL JOINTLESS COMPOSITION flooring, which is a hard-wearing and yet attractive floor covering, was used throughout all buildings at the new school to cover the staircases and landings, all of which have covered skirtings in the same Linotol flooring.

The Contract was carried out by—

Wm. BRAND & SON
(ARBROATH) LTD.
22-30 DISHLAND STREET, ARBROATH
Telephone: ARBROATH 2581-2

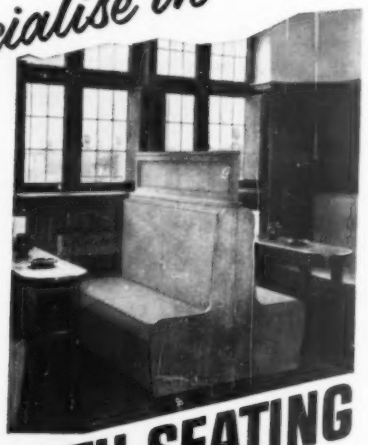
SECTION OF OABETA
WOOD OFFICE FURNITURE
MEMBERS OF THE
Wood adds dignity to your office furniture

HATHERNWARE **FAIENCE** IN THE CITY

PURPLE-GREY STONE-FACED FAIENCE WINDOW PANELS ON
Architects: C. Edmund Wilford & Son GOLDSMITHS SITE FETTER LANE LONDON E.C.4.
Send for details to Dept. A.R. HATHERNWARE LTD. LOUGHBOROUGH. LEICS. Tel: Hathern 273/4.
dmHL81

JAMES
make good
METAL
WINDOWS
W. JAMES & CO. LTD.
Hythe Rd. Willesden Junction
LADbroke 6471 (6 lines) N.W.10

We Specialise in



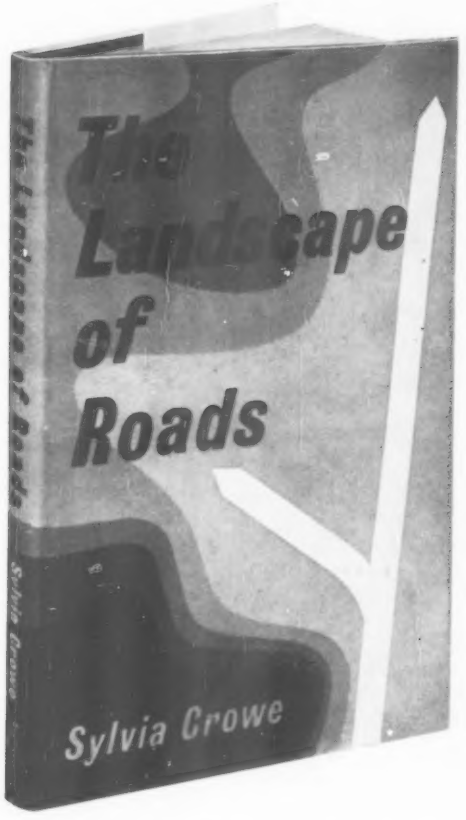
LONG LENGTH SEATING
with LATEX and RESILIENT FOAM CUSHIONS

as used in HOTELS, BARS & CLUBS, MUNICIPAL BUILDINGS, RECEPTION and WAITING ROOMS, SCHOOLS and LECTURE HALLS, WINDOW BAYS and ALCOVES, EXHIBITION STANDS.

Dunlopillo cushions and backrests supplied to any specification, uncovered or covered and ready for installation on site.

☆ May we send you full details

LATEX UPHOLSTERY LIMITED
THE LEADING SPECIALISTS
41, LONSDALE ROAD, LONDON, W.11. 'Phone: BAYswater 6262-5



THE LANDSCAPE OF ROADS

Sylvia Crowe

£230 million will be spent during the next three years on the construction and improvement of roads in Britain. This vast programme is of national interest, not only because new roads are so badly needed, but also because if they are not handled with infinite care, they will certainly ruin much of what remains of our landscape.

Following her successful books *Tomorrow's Landscape* and *The Landscape of Power*, Miss Crowe here turns to the landscape of roads and motorways. Writing with her usual lucidity and forcefulness, and with numerous drawings and photographs, she shows that if roads are regarded merely as an engineering problem, their effect on the landscape will surely be disastrous; road design and construction demand the combined skills of a team of experts: planners, architects and landscape architects, as well as highway engineers. Only when such a team is brought together at the outset will we obtain roads which are absorbed naturally into the existing landscape pattern; and which will be vastly more pleasant to travel on, safer, and not necessarily more costly than alien constructions which make no inflection to the landscape through which they pass.

Size 9 × 5¾ ins. 134 pages. 70 half-tone illustrations.
18*s.* 6*d.* net. Postage 1*s.*

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1.

ARBOLITE

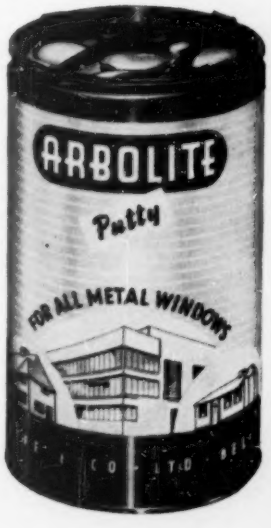
METAL CASEMENT PUTTY



the perfect KEY
for glazing METAL WINDOWS

ARBOLITE Metal Casement Putty is the key to the successful glazing of metal windows. Eliminates cracking and wrinkling because it contains ARBOSYN, which ensures greater durability, better adhesion and controlled setting properties.

the master glazing compound, that bonds glass to metal, makes **METAL WINDOWS** last **LONGER**



ADSHEAD RATCLIFFE & CO. LTD.
BELPER · DERBY · Tel.: Belper 891/2/3

ALPHABETICAL LIST TO ADVERTISERS

	PAGE
Accrington Brick & Tile Co. Ltd.	cxix
Adshead Ratcliffe & Co. Ltd.	cxxiii
Airscrew Co. & Jicwood, Ltd.	xlviii
Alcan (U.K.), Ltd.	viii, ix
Allied Brick & Tile Works, Ltd.	cxxi
Allom Heffer & Co. Ltd.	lxxiv
Arborite Co. (U.K.), Ltd.	xxviii, xxix
Architectural Press, Ltd.	cxii, cxv, cxxiii
Atlas Lighting, Ltd.	lxv
Atlas Stone Co. Ltd.	xxvi
Barker, John, & Sons (Engineers), Ltd. ...	cxvi
B.B. Chemicals Co. Ltd.	lvi
Bilston Foundries, Ltd.	lv
B.I.P. Reinforced Products, Ltd.	xxx
Bolding, John, & Sons, Ltd.	xi
Booth, John, & Sons (Bolton), Ltd.	xxiv
Brand, William, & Son (Arbroath), Ltd. ...	cxii
British Ceramic Tile Council	liv
British Constructional Steel Assoc.	xciii
British Paints, Ltd.	lxiv
British Plimber, Ltd.	lxiii
British Sanitary Fireclay Assoc.	xlix
Cafferata & Co. Ltd.	ii
Canadian Government (Timber)	v
Carpet Trades, Ltd.	xc
Chamberlin Weatherstrips, Ltd.	cxx
Colvilles, Ltd.	xl
Coppertrinda	xii
Crittall Manufacturing Co. Ltd.	xxiii
Crossley, John, & Sons, Ltd.	lxxxi
Cullum, Horace. W., & Co. Ltd.	cxxv
Danaura, Ltd.	cxviii
Dawnays, Ltd.	lvii
Delta Metal Co. Ltd.	iv
Demolition & Construction Co. Ltd. ...	xcvi
Docker Brothers, Ltd.	cv
Donegal Carpets	cxvii
Econa Modern Fl[illegible]Ltd.	xiii
Edinburgh Weavers	lxx
Elco Plastics, Ltd.	xcvii
Ellard Sliding Door[illegible], Ltd.	cxxi
Enterprises, J. R., L[illegible]	cii
Esavian, Ltd.	civ
Evertaut, Ltd.	x
Fordhams Pressings, Ltd.	cxvi
Formica, Ltd.	iii
Formica, Ltd. (Bathrooms)	xxvii
Frenger Ceilings, Ltd.	lxxxv

	PAGE
Gascoigne, Geo. H., & Co. Ltd.	lxvi
Gay, R., & Co. Ltd.	lxxxvi
General Electric Co. Ltd.	xvi
Gibson, A. L., & Co. Ltd.	cxviii
Glass Benders Association	xlvi
Goodlass Wall & Co. Ltd.	xxv
Goodyear Tyre & Rubber Co. (G.B.) Ltd. ...	lxxxii
Haden, G. N., & Sons, Ltd.	xv
Hammond & Champness, Ltd.	xxxvii
Harvey, G. A., & Co. Ltd.	lxxi
Hardwood Flooring Mfrs. Association ...	lviii, lix
Hathernware, Ltd.	cxxii
Haywards, Ltd.	xliv
Helimatic, Ltd.	xxxiv
Henderson, P. C., Ltd.	lxxiii
Hills, F., & Sons, Ltd.	xciv
H.M.S.O.	cxx
Holland & Hannen and Cubitts, Ltd.	xxxii, xxxiii
Home Fittings (G.B.), Ltd.	cvi
Hope, Henry, & Sons, Ltd.	lxxii
Humasco, Ltd.	l, li
Ideal Boilers & Radiators, Ltd. (Heating) ...	xlii
Ideal Boilers & Radiators, Ltd. (Sanitaryware)	lxxix
Imperial Chemical Industries, Ltd. (Plastics)	vii
James, W., & Co. Ltd.	cxxii
Kaye, Joseph, & Sons, Ltd.	xiv
Kenwood Manufacturing Co. (Woking), Ltd.	c
Lacrinoid Products, Ltd.	cxv
Latex Upholstery, Ltd.	cxxii
Leaderflush, Ltd.	xxxiv
Limmer & Trinidad Lake Asphalte Co.Ltd.	lxxvi
Linoleum Manufacturing Co. Ltd.	ci
London Brick Co. Ltd.	'xviii
Lumenated Ceilings, Ltd.	lxxv
Malkin Tiles (Burslem), Ltd.	cxxiv
Mason, Joseph, & Co. Ltd.	xxxi
Mellor Bromley (Air Conditioning), Ltd. ...	xix
Merchant Adventurers, Ltd.	lxxxiii
Morris Rubber Industries, Ltd.	cxv
Natural Asphalte Mine Owners & Manufacturers Council	cxi
National Coal Board	xcviii, xcix
Newalls Insulation Co. Ltd.	cix
Newman, William, & Sons, Ltd.	xlvii
Newton Chambers & Co. Ltd.	xx

	PAGE
North British Linoleum Co. Ltd.	lxix
Office Appliances & Business Equipment ...	cxxii
Overhead Doors (G.B.), Ltd.	xcii
Palmers Travelling Cradle & Scaffolding Co. Ltd.	lxxxix
Paniquil (Sales), Ltd.	cviii
Patent Glazing Conference	xli
Parnall, George, & Co. Ltd.	xxi
Peers, Harry, & Co. Ltd.	xvii
Pel, Ltd.	xxii
Perkins Boilers, Ltd.	cxix
Pilkington Bros., Ltd. (Institutional) ...	cx
Pilkington Bros., Ltd. (Cladding)	liii
Pyrene Co. Ltd.	cxviii
Rawlplug Co. Ltd.	xlv
Redpath Brown	cvii
Remploy, Ltd.	cxvii
Reyrolle, A., & Co. Ltd.	xxxviii
Riley (I.C.) Products, Ltd. (Oil-firing) ...	lxii
Rubery Owen (Heating), Ltd.	xci
Sankey, J. H., & Son, Ltd.	xci
Semtex, Ltd.	lx
Shanks & Co. Ltd.	lxvii
Sieber, James, Equipment Co. Ltd.	cxx
S.L.R. Electric, Ltd.	cxx
Smith & Walton, Ltd.	vi
Spencer Wire (Development), Ltd.	cxiv
Standard Maclean, Ltd.	cxx
Steel Radiators, Ltd.	xxxv
Sugg, William, & Co. Ltd.	cxiv
Timber Development Assoc.	ciii
Templeton, James, & Co. Ltd.	xxxvi
Thermalite-Ytong, Ltd.	cxxvi
Tyler, E. W., & Co. Ltd.	lxxxvii
Unity Heating, Ltd.	cxxiv
Walker, Crosweller & Co. Ltd.	lxxxiv
Wall Paper Manufacturers, Ltd.	lxxviii
Wardle, Bernard (Everflex), Ltd. ...	lxi
Wates, Ltd.	xliii
Westland Engineers, Ltd.	l
West's Piling & Construction Co. Ltd. ...	lxxxviii
Wiggin, J. & J., Ltd.	cxiii
Williams, John, of Cardiff, Ltd	lii
Williamson, James, & Son, Ltd.	xviii
Williamson, T. & R., Ltd.	lxxx
Wood, E., Ltd.	lxxvi

FLOODWARMTH UNITY EVENWARMTH

EST. 1922

Skirting Panel Heaters



give complete flexibility to the architects dimensional specification. Any measurement to the nearest inch between 2′ and 6′ max. Primed ready for decoration on site.

INSET CONVECTORS

suitable for flush wall mountings, standard models up to 3 kw ex-stock. Special frontplates can be quoted.

OTHER ELECTRICAL HEATING EQUIPMENT

includes :—Tubular Heaters, Panel Heaters, Unit Heaters, Convectors and Air Pre-Heating Batteries.

THERMOSTATIC CONTROLS

of many types are available for space heating installations including floor warming.

Catalogues upon request :—

UNITY HEATING LIMITED

CHILWORTH MANOR, CHILWORTH, SOUTHAMPTON

Southampton 68844/5



outside impressions....

count a great deal and it's good to know that the examples of your creative ability will remain unimpaired over the years. Consider Malkin tiles for your next project.

MALKIN

tiles for exteriors

WRITE FOR DETAILS TO:

THE MALKIN TILES *(Burslem)* LIMITED

Burslem, Stoke-on-Trent

Telephone Stoke-on-Trent 87287

© 3506

FOLD OVER FLAP

FOLD HERE

AR enquiry service

If you require catalogues and further information on building products, equipment and services referred to in the advertisements appearing in this issue of The Architectural Review please mark thus ✓ the relevant names given in the alphabetical index overleaf. Then detach this page and in the space overleaf type, or write in your name, address, profession or trade; fold the page so that the post-paid address is on the outside, and despatch.

All requests received will immediately be passed to the advertisers concerned.

Overseas readers, unfortunately, cannot take advantage of reply-paid postage; in the interest of time-saving we hope that they will return completed forms to us by air-mail.

Postage will be paid by Licensee

No postage Stamp necessary if posted in Great Britain or Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W.1761

The ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate

London, S.W.1.

ENGLAND

FOLD HERE

TUCK IN THIS END

ALPHABETICAL LIST TO ADVERTISERS

	PAGE
Accrington Brick & Tile Co. Ltd.	cxix
Adshead Ratcliffe & Co. Ltd.	cxxiii
Airscrew Co. & Jicwood, Ltd.	xlviii
Alcan (U.K.), Ltd.	xiii, ix
Allied Brick & Tile Works, Ltd.	cxxi
Allom Heffer & Co. Ltd.	lxxiv
Arbonite Co. (U.K.), Ltd.	xxviii, xxix
Architectural Press, Ltd.	cxii, cxv, cxxiii
Atlas Lighting, Ltd.	lxv
Atlas Stone Co. Ltd.	xxvi
Barker, John, & Sons (Engineers), Ltd.	cxvi
B.B. Chemicals Co. Ltd.	lvi
Bilston Foundries, Ltd.	lv
B.I.P. Reinforced Products, Ltd.	xxx
Belding, John, & Sons, Ltd.	xi
Booth, John, & Sons (Bolton), Ltd.	xxiv
Brand, William, & Son (Arbroath), Ltd.	cxii
British Ceramic Tile Council	liv
British Constructional Steel Assoc.	xciii
British Paints, Ltd.	lxiv
British Plumber, Ltd.	lxiii
British Sanitary Fireclay Assoc.	xlix
Cafferata & Co. Ltd.	ii
Canadian Government (Timber)	v
Carpet Trades, Ltd.	xc
Chamberlin Weatherstrips, Ltd.	cxx
Colvilles, Ltd.	xl
Coppertrinda	xii
Cuttall Manufacturing Co. Ltd.	xxiii
Crossley, John, & Sons, Ltd.	lxxxi
Cullum, Horace. W., & Co. Ltd.	cxxv
Danarra, Ltd.	cxviii
Downays, Ltd.	lvii
Delta Metal Co. Ltd.	iv
Demolition & Construction Co. Ltd.	xcvi
Docker Brothers, Ltd.	cv
Donegal Carpets	cxvii
Evona Modern Products, Ltd.	xiii
Edinburgh Weavers	lxx
Elco Plastics, Ltd.	xcvii
Ellard Sliding Door Gears, Ltd.	cxxi
Enterprises, J. R., Ltd.	vii
Esavian, Ltd.	civ
Everlast, Ltd.	x
Fordhams Pressings, Ltd.	cxvi
Formica, Ltd.	iii
Formica, Ltd. (Bathrooms)	xxvii
Frenger Ceilings, Ltd.	lxxxv
Gascoigne, Geo. H., & Co. Ltd.	lxvi
Gay, R., & Co. Ltd.	lxxxvi
General Electric Co. Ltd.	xvi
Gibson, A. L., & Co. Ltd.	cxviii
Glass Benders Association	xlvi
Goodlass Wall & Co. Ltd.	xxv
Goodyear Tyre & Rubber Co. (G.B.) Ltd.	lxxxii
Haden, G. N., & Sons, Ltd.	xv
Hammond & Champness, Ltd.	xxxvii
Harvey, G. A., & Co. Ltd.	lxxi
Hardwood Flooring Mfrs. Association	lviii, lix
Hathernware, Ltd.	cxxii
Haywards, Ltd.	xliv
Helimatic, Ltd.	xxxiv
Henderson, P. C., Ltd.	lxxiii
Hills, F., & Sons, Ltd.	xcix
H.M.S.O.	cxx
Holland & Hannen and Cubitts, Ltd.	xxxii, xxxiii
Home Fittings (G.B.), Ltd.	cvi
Hope, Henry, & Sons, Ltd.	lxxii
Humasco, Ltd.	i, ii
Ideal Boilers & Radiators, Ltd. (Heating)	xlii
Ideal Boilers & Radiators, Ltd. (Sanitary-ware)	lxxix
Imperial Chemical Industries, Ltd. (Plastics)	viii
James, W., & Co. Ltd.	cxxii
Kaye, Joseph, & Sons, Ltd.	xiv
Kenwood Manufacturing Co. (Woking), Ltd.	i
Lacrinoid Products, Ltd.	cxv
Latex Upholstery, Ltd.	cxxii
Leaderflush, Ltd.	xxxiv
Limmer & Trinidad Lake Asphalte Co. Ltd.	lxxvi
Linoleum Manufacturing Co. Ltd.	vi
London Brick Co. Ltd.	lxviii
Limmerated Ceilings, Ltd.	lxxv
Malkin Tiles (Burslem), Ltd.	cxxiv
Mason, Joseph, & Co. Ltd.	xxxi
Mellor Bromley (Air Conditioning), Ltd.	xix
Merchant Adventurers, Ltd.	lxxxiii
Morris Rubber Industries, Ltd.	cxv
Natural Asphalte Mine Owners & Manufacturers Council	cxi
National Coal Board	xcviii, xcix
Newalls Insulation Co. Ltd.	civ
Newman, William, & Sons, Ltd.	xlvii
Newton Chambers & Co. Ltd.	xx
North British Linoleum Co. Ltd.	lxix
Office Appliances & Business Equipment	cxxii
Overhead Doors (G.B.), Ltd.	xcii
Palmers Travelling Cradle & Scaffolding Co. Ltd.	lxxxix
Panopul (Sales), Ltd.	cviii
Patent Glazing Conference	xli
Parnall, George, & Co. Ltd.	xxi
Peers, Harry, & Co. Ltd.	xviii
Pel, Ltd.	xxii
Perkins Boilers, Ltd.	cxix
Pilkington Bros., Ltd. (Institutional)	cx
Pilkington Bros., Ltd. (Cladding)	iii
Pyrene Co. Ltd.	cxviii
Rawlplug Co. Ltd.	xlv
Redpath Brown	cxii
Remploy, Ltd.	cxxii
Reyrolle, A., & Co. Ltd.	xxxviii
Riley (I.C.) Products, Ltd. (Oldbrmg.)	lxii
Ribery Owen (Heating), Ltd.	xci
Sankey, J. H., & Son, Ltd.	xvi
Sentex, Ltd.	lx
Shanks & Co. Ltd.	lxvii
Sieber, James, Equipment Co. Ltd.	cxx
S.I.R. Electric, Ltd.	cxx
Smith & Walton, Ltd.	vi
Spencer Wire (Development), Ltd.	cxiv
Standard Mouldrite, Ltd.	cxx
Steel Radiators, Ltd.	xxxx
Sugg, William, & Co. Ltd.	cxiv
Timber Development Assoc.	cii
Templeton, James, & Co. Ltd.	xxxvi
Thermalite-Ytong, Ltd.	cxxvi
Tyler, E. W., & Co. Ltd.	lxxxvii
Unity Heating, Ltd.	cxxiv
Walker, Crosweller & Co. Ltd.	lxxxiv
Wall Paper Manufacturers, Ltd.	lxxviii
Wardle, Bernard (Everflex), Ltd.	lxi
Wates, Ltd.	xliii
Westland Engineers, Ltd.	i
West's Piling & Construction Co. Ltd.	lxxxviii
Wiggin, J. & J., Ltd.	cxiii
Williams, John, of Cardiff, Ltd.	lii
Williamson, James, & Son, Ltd.	xviii
Williamson, T. & R., Ltd.	lxxx
Wood, E., Ltd.	lxxvi

FLOODWARMTH UNITY EVENWARMTH

EST. 1922

Skirting Panel Heaters



give complete flexibility to the architects dimensional specification. Any measurement to the nearest inch between 2' and 6' max. Primed ready for decoration on site.

INSET CONVECTORS

suitable for flush wall mountings, standard models up to 3 kw ex-stock. Special frontplates can be quoted.

OTHER ELECTRICAL HEATING EQUIPMENT

includes :—Tubular Heaters, Panel Heaters, Unit Heaters, Convectors and Air Pre-Heating Batteries.

THERMOSTATIC CONTROLS

of many types are available for space heating installations including floor warming.

Catalogues upon request :—

UNITY HEATING LIMITED

CHILWORTH MANOR, CHILWORTH, SOUTHAMPTON

Southampton 68844-5



outside impressions....

count a great deal and it's good to know that the examples of your creative ability will remain unimpaired over the years. Consider Malkin tiles for your next project.

MALKIN

tiles for exteriors

WRITE FOR DETAILS TO

THE MALKIN TILES *(Burslem)* LIMITED

Burslem, Stoke-on-Trent

Telephone Stoke-on-Trent 87287

FIRST FOLD HERE

AR enquiry service

If you require catalogues and further information on building products, equipment and services referred to in the advertisements appearing in this issue of The Architectural Review please mark thus √ the relevant names given in the alphabetical index overleaf. Then detach this page and in the space overleaf type, or write in your name, address, profession or trade; fold the page so that the post-paid address is on the outside, and despatch.

All requests received will immediately be passed to the advertisers concerned.

Overseas readers, unfortunately, cannot take advantage of reply-paid postage; in the interest of time-saving we hope that they will return completed forms to us by air-mail.

FOLD HERE

Postage will be paid by Licensee

No postage Stamp necessary if posted in Great Britain or Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W.1761

The ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate

London, S.W.1.

ENGLAND

FOLD HERE

TUCK IN THIS END

Enquiry Service Form

alphabetical index to advertisers

	PAGE	CODE
Accrington Brick & Tile Co. Ltd.	cxix	0002
Adshead Ratcliffe & Co. Ltd. ...	cxxiii	0004
Airscrew Co. & Jicwood, Ltd. ...	xlviii	0005
Alcan (U.K.), Ltd.	viii, ix	0006
Allied Brick & Tile Works, Ltd.	cxxi	0010
Allom Heffer & Co. Ltd. ...	lxxiv	0008
Arborite Co. (U.K.), Ltd.	xxviii, xxix	0237
Architectural Press, Ltd.	cxii, cxv, cxxiii	0011
Atlas Lighting, Ltd.	lxv	0015
Atlas Stone Co. Ltd.	xxvi	0016
Barker, John, & Sons (Engineers), Ltd.	cxvi	0018
B.B. Chemicals Co. Ltd.... ...	lvi	0243
Bilston Foundries, Ltd.	lv	0020
B.I.P. Reinforced Products, Ltd.	xxx	0021
Bolding, John, & Sons, Ltd. ...	xi	0024
Booth, John, & Sons (Bolton), Ltd.	xxiv	0392
Brand, William, & Son (Arbroath), Ltd.	cxii	0394
British Ceramic Tile Council ...	liv	0030
British Constructional Steel Assoc.	xciii	0031
British Paints, Ltd.	lxiv	0032
British Plimber, Ltd.	lxiii	0273
British Sanitary Fireclay Assoc.	xlix	0033
Cafferata & Co. Ltd.	ii	0034
Canadian Government (Timber)	v	0035
Carpet Trades, Ltd.	xc	0038
Chamberlin Weatherstrips, Ltd.	cxx	0041
Colvilles, Ltd.	xl	0045
Coppertrinda	xii	0299
Crittall Manufacturing Co. Ltd....	xxiii	0052
Crossley, John, & Sons, Ltd. ...	lxxxi	0053
Cullum, Horace W., & Co. Ltd....	cxxv	0055
Danaura, Ltd.	cxviii	0396
Dawnays, Ltd.	lvii	0058
Delta Metal Co. Ltd.	iv	0059
Demolition & Construction Co. Ltd.	xcvi	0295
Docker Brothers, Ltd.	cv	0296
Donegal Carpets	cxvii	0297
Econa Modern Products, Ltd. ...	xiii	0067
Edinburgh Weavers	lxx	0068
Elco Plastics, Ltd.	xcvii	0069
Ellard Sliding Door Gears, Ltd....	cxxi	0070
Enterprises, J.R., Ltd.	cii	0079
Esavian, Ltd.	civ	0076
Evertaut, Ltd.	x	0077
Fordhams Pressings, Ltd. ...	cxvi	0082
Formica, Ltd.	iii	0083
Formica, Ltd. (Bathrooms) ...	xxvii	0402
Frenger Ceilings, Ltd.	lxxxv	0086
Gascoigne, Geo. H., & Co. Ltd....	lxvi	0089
Gay, R., & Co. Ltd.	lxxxvi	0091
General Electric Co. Ltd. ...	xvi	0306
Gibson, A. L., & Co. Ltd. ...	cxviii	0093
Glass Benders Association ...	xlvi	0094
Goodlass Wall & Co. Ltd. ...	xxv	0096
Goodyear Tyre & Rubber Co. (G.B.), Ltd.	lxxxii	0309
Haden, G. N., & Sons, Ltd. ...	xv	0270
Hammond & Champness, Ltd. ...	xxxvii	0405
Hardwood Flooring Mfrs. Association	lviii, lix	0311
Harvey, G. A., & Co. Ltd. ...	lxxi	0104
Hathernware, Ltd.	cxxii	0105
Haywards, Ltd.	xliv	0312
Helimatic, Ltd.	xxxiv	0108
Henderson, P. C., Ltd.	lxxiii	0109
Hills, F., & Sons, Ltd.	xciv	0313
H.M.S.O.	cxx	0403
Holland & Hannen and Cubitts, Ltd.	xxxii, xxxiii	0404
Home Fittings (G.B.), Ltd. ...	cvi	0118
Hope, Henry, & Sons, Ltd. ...	lxxii	0120
Humasco, Ltd.	l, li	0121
Ideal Boilers & Radiators, Ltd. (Heating)	xlii	0124
Ideal Boilers & Radiators, Ltd. (Sanitaryware)...	lxxix	0315
Imperial Chemical Industries, Ltd. (Plastics)	vii	0239
James, W., & Co. Ltd.	cxxii	0127
Kaye, Joseph, & Sons, Ltd. ...	xiv	0320
Kenwood Manufacturing Co. (Woking), Ltd....	c	0129
Lacrinoid Products, Ltd. ...	cxv	0130
Latex Upholstery, Ltd.	cxxii	0128
Leaderflush, Ltd....	xxxiv	0138
Limmer & Trinidad Lake Asphalte Co. Ltd.	lxxvi	0135
Linoleum Manufacturing Co. Ltd.	ci	0377
London Brick Co. Ltd.	lxviii	0138
Lumenated Ceilings, Ltd. ...	lxxv	0324
Malkin Tiles (Burslem), Ltd. ...	cxxiv	0140
Mason, Joseph, & Co. Ltd. ...	xxxi	0143
Mellor Bromley (Air Conditioning), Ltd.	xix	0145
Merchant Adventurers, Ltd. ...	lxxxiii	0395
Morris Rubber Industries, Ltd....	cxv	0149
Natural Asphalte Mine Owners & Manufacturers Council ...	cxi	0152
National Coal Board ...	xcviii, xcix	0151
Newalls Insulation Co. Ltd. ...	cix	0153
Newman, William, & Sons, Ltd.	xlvii	0155
Newton Chambers & Co. Ltd. ...	xx	0156
North British Linoleum Co. Ltd.	lxix	0157
Office Appliances & Business Equipment	cxxii	0380
Overhead Doors (G.B.), Ltd. ...	xcii	0160
Palmers Travelling Cradle & Scaffolding Co. Ltd.	lxxxix	0397
Paniquil (Sales), Ltd.	cviii	0329
Parnall, George, & Co. Ltd. ...	xxi	0162
Patent Glazing Conference ...	xli	0332
Peers, Harry, & Co. Ltd. ...	xvii	0163
Pel, Ltd.	xxii	0164
Perkins Boilers, Ltd.	cxix	0277
Pilkington Bros., Ltd. (Institutional)	cx	0336
Pilkington Bros., Ltd. (Cladding)	liii	0240
Pyrene Co. Ltd.	cxviii	0340
Rawlplug Co. Ltd.	xlv	0172
Redpath Brown	cvii	0173
Remploy, Ltd.	cxxvi	0345
Reyrolle, A., & Co. Ltd. ...	xxxviii	0175
Riley (I.C.) Products, Ltd. (Oil-firing)	lxii	0178
Rubery Owen (Heating), Ltd. ...	xci	0180
Sankey, J. H., & Son, Ltd. ...	xci	0184
Semtex, Ltd.	lx	0185
Shanks & Co. Ltd.	lxvii	0188
Sieber, James, Equipment Co. Ltd.	cxx	0192
S.L.R. Electric, Ltd.	cxx	0357
Smith & Walton, Ltd.	vi	0194
Spencer Wire (Development), Ltd.	cxiv	0198
Standard Maclean, Ltd.	cxx	0398
Steel Radiators, Ltd.	xxxv	0200
Sugg, William, & Co. Ltd. ...	cxiv	0203
Templeton, James, w Co. Ltd. ...	xxxvi	0209
Thermalite-Ytong, Ltd.	cxxvi	0210
Timber Development Assoc.	lviii, lix, ciii	0370
Tyler, E. W., & Co. Ltd. ...	lxxxvii	0216
Unity Heating, Ltd.	cxxiv	0399
Walker, Crosweller & Co. Ltd. ...	lxxxiv	0224
Wall Paper Manufacturers, Ltd.	lxxviii	0225
Wardle, Bernard, (Everflex), Ltd.	lxi	0227
Wates, Ltd.	xliii	0400
Westland Engineers Ltd. ...	1	0233
West's Piling & Construction Co. Ltd.	lxxxviii	0229
Wiggin, J. & J., Ltd.	cxiii	0401
Williams, John, of Cardiff, Ltd.	lii	0260
Williamson, James, & Son, Ltd.	xviii	0254
Williamson, T. & R., Ltd. ...	lxxx	0231
Wood, E., Ltd.	lxxvi	0371

Write in block letters, or type, your name, profession and address below, and fold so that the post-paid address overleaf is on the outside.

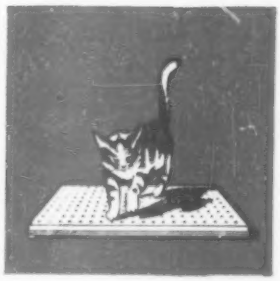
NAME_____

PROFESSION_____

ADDRESS_____

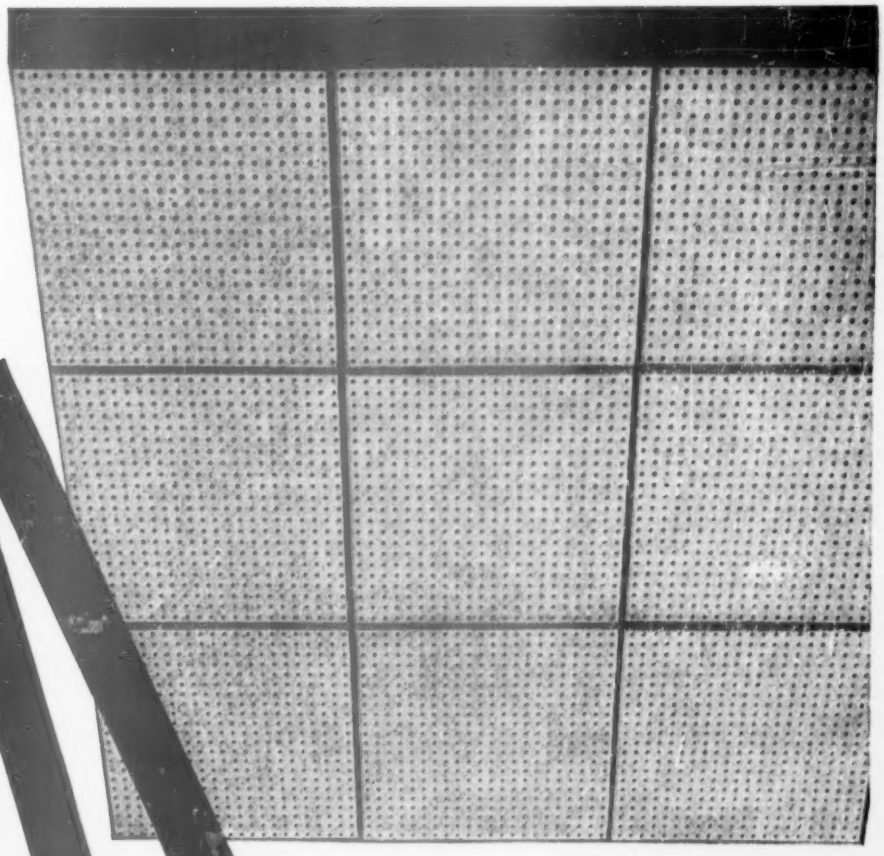
MOST IMPORTANT

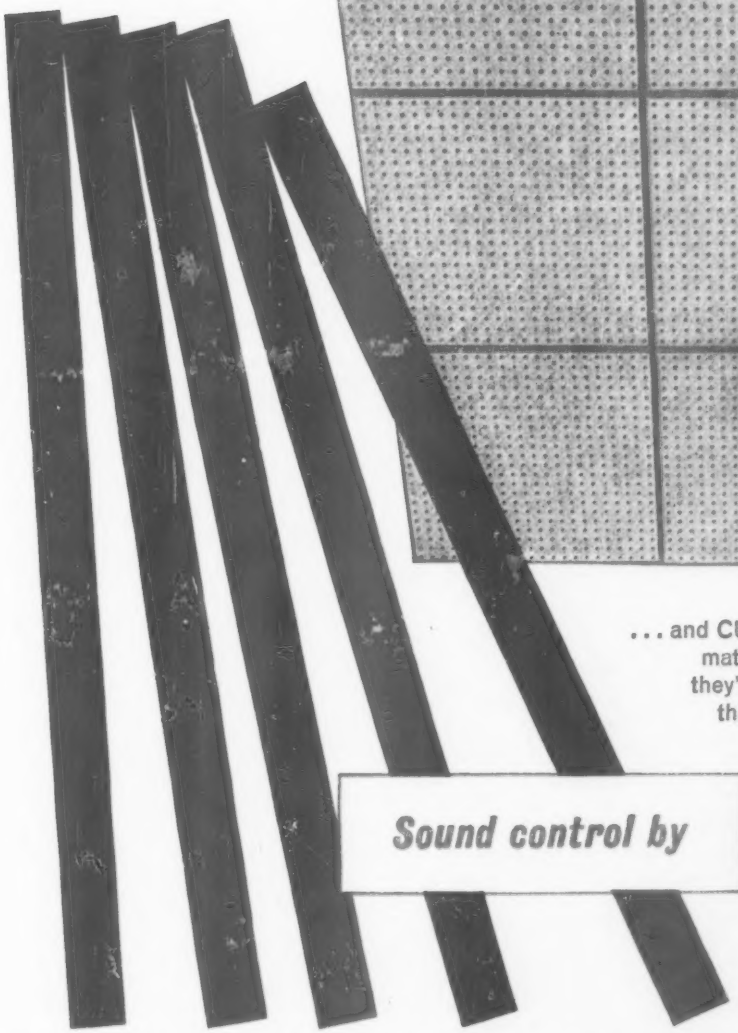
DECEMBER 1960



ACOUSTIC TILING KNOW-HOW

...TILES SUPPLIED & INSTALLED BY CULLUM





...and CULLUM should know exactly how, where matters of acoustic tiling are concerned... they've dealt in acoustic ceiling tiles for over thirty years. CULLUM are one of Britain's leading distributors.

Sound control by **CULLUM**

BRITAIN'S MOST EXPERIENCED ACOUSTIC ENGINEERS... CONCESSIONAIRES FOR ACOUSTI-CELOTEX AND BURGESS ACOUSTIC TILES

HORACE W. CULLUM & CO. LTD. The Acoustic Centre · 58 Highgate West Hill · London N.6 · Tel: FITzroy 1221

Printed in Great Britain for the Proprietors of "The Architects' Journal," of "The Architectural Review," and of "Specification" (The Architectural Press, Ltd.) 9-13, Queen Anne's Gate, Westminster, S.W.1, by Knapp, Drewett & Sons Ltd., by appointment to Her Majesty the Queen, Printers, Kingston-on-Thames. Editorial illustrations engraved by The Engravers Guild Ltd., Windsor House, 23/26, Cursitor Street, London, E.C.4.
Entered in the New York Post Office as Second Class Matter

THERMALITE

the leading name in

loadbearing
insulating
building
blocks

THERMALITE YTONG LIMITED
HAMS HALL LEA MARSTON SUTTON COLDFIELD WARWICKSHIRE
TELEPHONE: COLESHILL 2081